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The Journal of the American Pharmaceutical Association

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G. M. BERINGER. E. G. EBERLE.
E. FULLERTON COOK. F. J. WULLING.
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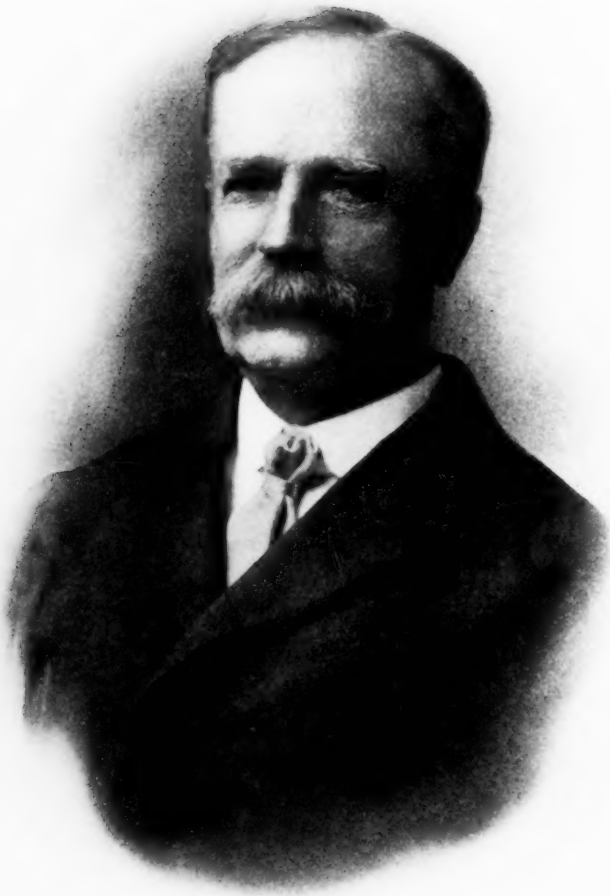
For biographical sketch see P. 1536.



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The Sixty-Second Annual Convention

Held at Detroit, Michigan, August 24-29, 1914

FOURTH GENERAL SESSION.

President Beringer called the fourth general session to order Saturday, August 29, at 11 o'clock a. m. in room B of the Convention Hall of the Hotel Pontchartrain, Detroit.

The first order of business was the reading of the minutes of the third general session.

On motion, the minutes were approved.

Secretary England of the Council read the minutes of the Council sessions to date. Mr. Hynson moved that the minutes be approved.

Mr. Harry B. Mason, of Detroit, asked if the approval of the minutes of the Council carried with it the approval of the resolutions submitted by the House of Delegates. President Beringer replied that the approval of the minutes meant that this Association likewise approved the action of the Council in regard to those resolutions.

Mr. Mason said he would like to say just a word before a vote was taken. He said, in regard to the publishing of news in the local papers, and providing for the appointment of a reporter to the local press at future conventions whose duty it should be to see to it that the news is O. K'd, corrected and verified before it is published in the newspapers, he had no objection to the resolution, but he thought it unwise to adopt it as it would be impracticable. As Chairman of the Committee on Publicity, he, more than anyone else, of the officers of the Association, was responsible for the printing of news at Detroit. It had been his experience that it was absolutely impossible to correct or do anything with newspaper men; you

could ask the reporters to submit the news before it was printed, and they will be perfectly willing to do so, but the next day another set of reporters would come in so that the matter was absolutely outside of the control of the Association. The report printed on Tuesday morning, and which caused the introduction of this resolution, was the result of misinterpretation of a portion of the address of President Beringer, and he was righteously indignant about it. The Committee on Publicity did not see the particular reporter of that session. Mr. Mason said he saw this reporter later and asked him to correct the mis-statement and it was corrected in small eight-point down at the bottom of the page where nobody would notice it. The Association had no control over this matter and it might as well attempt to drive a team of six oxen in six different directions as to attempt its regulation. He moved that this resolution be stricken from the report of the Council, but that otherwise the minutes be approved.

Mr. Raubenheimer said, if Mr. Mason had been present at the Council meeting and heard the discussion on this question, he would understand that it was simply for the purpose of preventing any such future misrepresentation in the newspapers.

This committee which was proposed to be appointed, was to consist of an associate reporter and the chairmen of the several sections of the Association. This was advocated for the express reason of preventing one section from getting the entire glory and some other section not getting any publicity. This plan would place the responsibility on the reporter and the chairmen of the different sections.

Prof. F. J. Wulling thought the recommendation as originally made should stand. The Association could afford to try a new experiment. The old way had failed in many instances and if the new way failed, they would not be any worse off than they were before. The method suggested had been tried out elsewhere successfully. The purpose was to correlate all the authentic news from authentic sources, and it was proposed to communicate the authentic information immediately to this reporter, by whom the news would be given to the press. Such committees had been established by other associations and the scheme had worked out very well, both to the satisfaction of the press and the Association. The press had met the reporters of this kind very gladly and said, "If you will give us the news we will print it," and they did print the news in the way in which it was given them, with, of course, certain additions of headlines and the giving of prominence to things which they thought had more human interest than others.

Mr. Mayo stated that everyone was perfectly well aware of the fact that human interest was the thing that counts with the press. The press wants sensational things to happen, and the Association cannot prevent them from printing such news. It is absolutely impossible to prevent it in any way, and the only thing the Association could hope to do in the appointment of this committee would be simply, to give the newspapers prompt, authentic, interesting news, which may bring to the Association a desirable publicity, and, possibly, tend to diminish the tendency toward sensationalism. But the prominence given the news depended upon the newspaper and not upon the local committee. He did not want Mr. Mason to get the idea there was any reflection intended by the resolution upon the work of the local publicity committee.

Mr. William A. Hall, as a member of the local press committee, said that the

local committee in each place is in much more intimate touch with the press in their community, than any committee that might be appointed from the Association, unless such committee happened to reside in the place of meeting. As a matter of fact, Mr. Mason and he were *persona grata* to some of the papers in Detroit, and they had secured the promise of the press to print a good write-up for the convention and the reporters were specifically requested to come to Mr. Mason for the news. The reporters came and arrangements were made with them, but these reporters did not cover all the sessions.

Mr. Mason said that, after what had been said, he did not think the subject was one of sufficient importance to take up the time of the Association, and for that reason withdrew his motion.

Mr. Hynson's motion was then adopted.

The Chair then stated the next order of business to be taken up would be the report of the Special Committee on Rules and By-Laws. (Printed on P. 1280—September issue.)

The report of the committee was read and its recommendations approved without debate, in so far as embraced in Sections 1 and 2 of their report as to amendments to the General Rules, and the amendments to the By-Laws embraced in their report in recommendations three to ten, both inclusive.

Section 11 of the committee's report was read as to reports of committees requiring those reports to be sent to the General Secretary in advance of the first general session. Prof. F. J. Wulling asked if the recommendation applied to all committees or only to standing committees. Mr. Mayo said that he thought it should apply to all committees which were appointed at the meeting preceding. It was an important amendment and he moved its adoption. Mr. Nitardy seconded. The motion was adopted. Recommendations 12 and 13 were adopted without debate.

The amendments proposed at Nashville were then acted upon, and Mr. England read the report of the Committee on Revision of the Constitution and By-Laws, as follows:

American Pharmaceutical Association:—

GENTLEMEN:—It will be recalled that at the Denver (1912) annual meeting of the Association your committee presented a full and comprehensive report, proposing certain changes in the constitution and by-laws, which was received, ordered printed in the Journal, and its further consideration postponed until the following annual meeting; and reprints were directed to be made of the report and of the existing Constitution and By-Laws, so as to facilitate comparison and consideration of the changes proposed; this was done, but at the Nashville (1913) meeting no action was taken on the report of the committee as a whole, by reason of lack of time, although some of the proposed changes in by-laws were made.

An important question is as to the status of the changes in the Constitution and By-Laws proposed by the committee in its report. They are apparently still before the Association as the report has been received, and the committee has not been discharged.

If recent discussions in the journals count for anything, there will be a number of changes in by-laws proposed at this meeting, covering the business procedure of the annual meetings, and your committee urges that the whole subject of the work of the Association be discussed, and that the by-laws be amended, not piecemeal, but by comprehensive, well-balanced changes.

Action should be taken at this meeting upon the amendments to Article IV and Article V of the Constitution presented at the 1913 annual meeting, as under the present Constitution, the proposed changes were postponed until this annual meeting.

The proposed Article IV reads: "All money received from life membership, together with such funds as may be bequeathed, or otherwise donated to the Association, shall be invested by the Treasurer in United States Government, State, Municipal, County or other securities acceptable as security for postal savings deposits, the interest of which for any current year only may be used by the Association for its expenses."

The proposed Article V reads: "Every proposition to alter or amend this Constitution shall be printed in the Journal at least thirty days prior to the annual meeting; shall be read at the first General Session of the annual meeting, and shall be balloted upon at a subsequent General Session, when, upon receiving the affirmative votes of two-thirds of the members present, it shall become a part of the Constitution. Any proposition to amend the Constitution for the purpose of permitting the expenditure of the permanent invested funds of the Association shall require a majority of seven-eighths for its passage."

SUPPLEMENTARY REPORT.

We recommend that action be taken.

To amend Chapter IX, By-Laws, Article XII, by striking therefrom the word Section and the numerals following, wherever same appears therein.

By striking out the line now reading: "Section 3—The Report of the Committee on Nomination shall be read."

To amend Chapter IX of the By-Laws, Article XV, to read:—

Article XV—At the last General Session of the Association the report of the Committee on Nomination shall be presented; all unfinished business disposed of and the officers for the Association for the ensuing year shall be installed.

To amend Chapter 1 of By-Laws by adding a new section to read as follows:

Section VI—Any vacancy in the officers elected by the Association or by any of the Sections occurring in the interim between meetings shall be filled by appointment by the President.

Respectfully submitted, J. W. ENGLAND.
Chairman of Committee on Revision of Constitution and By-Laws.

The first amendment, that to Article IV, came up for action.

Dr. H. M. Whelpley said he did not believe the wording of the proposed amendment carried out the exact idea that was intended. As read, it was made obligatory for the Treasurer to make the investment. It was not intended, as the money accumulated, to have it put into bonds, as such procedure was not practical for the reason that bonds of small denomination cannot be purchased. It was his recollection that the intent of the mover was to so amend the present by-law that it would be possible to invest in a class of securities which was not provided for under the present by-law. The present by-law restricted the investment of funds to United States and State securities, and the intention of the proposed amendment was to give greater flexibility in the nature of the securities.

The ground of Mr. Whelpley's objection was the use of the word "shall" in the proposed amendment, which, if carried, would make it obligatory.

President Beringer stated that was the present wording of the proposed by-law. Mr. Whelpley said then the present wording was wrong and that such a course had not been lived up to; that, for example, part of the funds of the Association

were in the Boston Penny Savings Bank, where it had been for years, and had been turned over to him as Treasurer, in that shape.

President Beringer inquired if it had not been the idea of Dr. Beal that this money should be invested in some permanent investment rather than lie there in a savings fund. Mr. Whelpley replied that the proposed amendment conflicted with the rule of finance, which provided that investments shall be made only through the coöperation of the Finance Committee and the Committee on Invested Funds.

Mr. Whelpley then moved that the word "may" be substituted for the word "shall," the wording otherwise to remain the same. The original motion, as amended, was then adopted.

Mr. England then read the proposed Article V.

Mr. Nitardy moved the adoption of the above article; motion seconded by Mr. Hostmann, and carried.

The proposal to amend Chapter IX, Article 12, in reference to the report of the Committee on Nominations was, on motion of Mr. Anderson, seconded by Prof. Hynson, laid upon the table.

Mr. Harry B. Mason took the floor and said that as Chairman of the Commercial Section he desired to report upon a resolution which had been introduced in the Commercial Section and referred to the General Session, which had been offered by Mr. George H. Schafer, which resolution read as follows:

"*Resolved*, That a special committee of the American Pharmaceutical Association, consisting of five or more members, be appointed to consider by correspondence and otherwise, a feasible plan to submit to the National Board of Fire Underwriters whereby the onerous and practically impossible requirements of an annual inventory of drug stores be waived or modified to such an extent as to conform with common sense and honesty, thus furnishing full protection for both insured as well as the insurance company."

Mr. Carter moved the adoption of the resolution as read.

Mr. Albert O. Zwick, of Cincinnati, said he thought they were acting a little hasty on the above resolution and asked to have it re-read.

The Secretary read the resolution, after which Mr. Zwick asked if it was the purpose of the resolution that the subject be investigated by the committee and that they then make a report to the Association on the question of the feasibility of dispensing with an annual inventory. Mr. Zwick said his presence at the convention was accidental, but he was very glad to be there. He further said he was a member of the Association and spoke also as a member of the Executive Committee of the American Druggists' Fire Insurance Company; that this question had been up for debate many times in Executive Committee meetings, and he assured the audience that it was a very serious matter indeed because a drug store without an inventory, is, in case of fire, like a ship without an anchor in a storm, and it was very difficult to adjust a loss if an inventory was dispensed with, and he thought there should be some plan proposed whereby they could secure reliable data as to the amount of stock the druggist may have had before his fire. As he understood the resolution, it asked the National Board of Underwriters to consider whether it would be possible to dispense with the inventory. Mr. Carter replied that the wording was "annual inventory." Mr. Zwick asked why they laid stress on the "annual." Mr. Carter replied they didn't all take annual inventories. Mr. Zwick said he

knew that. Mr. Carter said many druggists took inventories once only every two, three or five years and consider that that is a fair basis. Mr. Zwick replied that he thought it dangerous to base anything on such an inventory.

Mr. George F. Payne said he thought the other members understood it as he did, that many hardships were imposed upon pharmacists in insurance company matters, on account of the insurance companies really not understanding the situation.

Mr. Zwick said everybody knew the importance and desirability of an annual inventory and the resolution, it seemed to him, should take up the matter as to how a man could make the showing that he should under the conditions that surround him. He said he had been an insurance adjuster for a number of insurance companies at different times in drug fires, and while acting under the directions of the insurance company, he had had the druggist come to him after the matter was over and shake him by the hand and say he had done more for him than his own representative had. He further said it was a good idea to take these matters up because there were many points which the insurance companies were perfectly willing to act upon in a way that was favorable to the pharmacist which the pharmacist did not really understand himself.

Mr. George H. Schafer, of Fort Madison, Iowa, said if the fire insurance company representatives could have been present at the meeting in which this matter had been discussed and had seen the interest taken in the discussion, they would have appreciated the difficulties in the way of taking an annual inventory. He had no doubt they did appreciate them in their practical experience and they would remedy them if there was any body of men capable of taking the initiative in this matter, and seeing what can be done. It was proposed by the resolution to appoint a committee that would confer with this National Insurance body in order to bring about a modification or a waiver of the insurance clause to such an extent that the difficulties would be surmounted. Mr. Schafer said following the adoption of the pending resolution he had a brief motion to make which he thought would supplement it in such a way as to make it perfectly satisfactory to the insurance underwriters.

Mr. Hynson said the proposition was bad practice and the adoption of this resolution would virtually mean that the American Pharmaceutical Association endorsed the worst commercial practice he knew of, and he certainly hoped for the sake of the Association it would not endorse the resolution.

The motion was then voted upon and lost.

The President then called for the report of the Committee on President's Address, and stated as he was vitally concerned in the report, he would ask the Vice-President to take the chair. (Report printed in October issue.)

The Secretary then read the first recommendation of the report of the Committe on President's Address, which is as follows:

"The endorsement of the objects of the International Pharmaceutical Federation be approved, and it is recommended that the Council be authorized to make application for active membership of the American Pharmaceutical Association."

Upon motion of W. C. Anderson, and seconded by A. M. Roehrig, the above recommendation was adopted.

The Secretary then read the second recommendation, which is as follows:

"The recommendation of the President to reduce the number of members necessary for the organization of a local branch be reduced from twenty-five to fifteen, and that the Chairman of the Committee on Local Branches should provide for a bulletin to be issued to the local branches suggesting topics of importance for discussion."

Upon motion of Mr. Whelpley, duly seconded, the above recommendation was adopted.

The Secretary then read the third recommendation, which is as follows:

"The recommendation of the President that a Special Committee should be created on *Pre-requisite Laws* to take such action as will encourage the Pharmacists of each state where such a law does not exist to have passed an amendment to the pharmacy law which will secure the passage of such a pre-requisite law. It is suggested by your committee that the election of this special committee be referred to the Council for action."

Upon motion of Mr. Otto Raubenheimer, seconded by Mr. Nitardy, the above recommendation was adopted.

The Secretary then read the fourth recommendation, which is as follows:

"The suggestion of the President that the Council shall take into careful consideration the subject of the preparation of a *Pharmaceutical Syllabus,* expressive of the views of pharmaceutical educators is approved."

Mr. Deaton moved the adoption of the above resolution; motion seconded.

Mr. Anderson said he believed they had provided by a previous resolution for the appointment of seven members on the Syllabus Committee, and asked if this meant that they were to have another Committee on Pharmaceutical Syllabus appointed? One of the members replied he did not think so; it simply meant the adoption of the syllabus.

Mr. Anderson said he did not so understand it; that he understood this to be a resolution that would in reality have the Association go on record as repudiating the work of the seven members of the Syllabus Committee that had been working for several years on this proposition, and appoint another committee to take up syllabus work, and if that was the case, he very decidedly disapproved of the recommendation and hoped the Association would do the same.

Mr. Deaton said he thought the recommendation meant the adoption of the syllabus, and in view of his misunderstanding, withdrew his motion.

Mr. Anderson then moved that the Association disapprove the recommendation; motion seconded.

Mr. S. L. Hilton, of Washington, said he thought the recommendation was a very good one. He thought the time had arrived when the American Pharmaceutical Association should take over the compilation of the publication of the Pharmaceutical Syllabus; the last edition of the Pharmaceutical Syllabus with its errors, with the subject matter that it contains and its recommendation that it shall be carried out in a two years' course, is a matter that is impractical and is a disgrace on American Pharmacy, and a disgrace upon the American Pharmaceutical Association. He said if one would look over the last pages of the book giving the works of reference, some of which were almost impossible to decipher, he would see the titles were mis-spelled, they were incorrect, so that that part of the book might just as well be torn out and thrown away, and yet, with all these errors, they wanted to have the book as a standard for the schools of pharmacy

in this country; that he for one, connected with a school of pharmacy, was frank to admit they could not use the book in the way of giving a three-year course.

Dr. William Mansfield, of New York, in answer to the gentleman just speaking, said that he believed he had not paid the proper attention to the book; that the gentleman had not read the preface to the book, and if a college of pharmacy did not give that minimum course of instruction, he would not have much of an opinion of the men who graduated from such an institution. He further wanted to say that the work of that Syllabus Committee represented the work of some of the best minds in the pharmaceutical profession, and it was a mere proof of ignorance on the part of the previous speaker not to appreciate the extent of the good work that had been done by that committee, and he sincerely hoped that the remarks of the gentleman who preceded him would be stricken from the minutes of these proceedings.

Prof. William B. Day said, as a member of the Syllabus Committee, he merely wished to say that the work represented the labors of the seven men appointed by the Association, and whatever the errors or mistakes which may have crept into the syllabus are, the work represented the efforts of their committee over a considerable term of years, and he hoped the efforts of the committee would not be repudiated by the Association. He said he did not claim that the syllabus was by any means perfect, and it was not offered as anything perfect, and that they expected to revise it, and he thought to take such action and move the appointment of another committee to prepare an entirely new syllabus would be a grave mistake; that they had already presented the syllabus to the schools throughout the country and the Boards of Pharmacy, and it had been adopted by quite a number of boards and schools, and he thought the work could not now be thrown overboard and go for naught.

Mr. Apple asked that the members carefully consider the phrase "expressive of the views of pharmaceutical educators is approved," contained in the recommendation.

President Beringer said he desired to speak on this subject; that he did not think there was any subject more important to pharmaceutical education than outlining the proper course of instruction, and when the Association became a party to the outlining of a course of instruction it should present what can be done and what ought to be done. He said he had looked very critically into the subject and had been a member of the committee and gone through the trials and tribulations they had had in that committee for three or four years, and he knew what was meant by the honorable discharge of duty, and stated the Association could not afford to endorse something which on its face was not correct; that there was not an honest, capable school of pharmacy which could give that amount of instruction as a minimum amount in a two-years' course of instruction; that it was conceded by everybody who was honest in their conviction that it could not be done. Mr. Beringer called attention to the preface of the book in which it was stated that educators and examiners could select what they wanted to teach. He thought it was very unfortunate to have such a statement as that in the preface; that the Association could not afford to place themselves in a position that was morally wrong, and they should not be asked to endorse a thing which could not be carried out. He also said he did not care to indulge in per-

sonalities and he hoped none of the gentlemen present would do so, but he thought the members of the committee would bear him out in his statement that a sane revision of the syllabus by the committee as at present constituted was impossible. He said he had attempted to contribute, and he thought he had contributed as much original and constructive criticism as any other two members, and in saying this he did not intend it as egotism; that some of the ideas which should have been incorporated in the syllabus were adopted, while others were thrown overboard.

The trouble with the committee, Mr. Beringer said, and he was going to speak plainly, was that outside influences had prevented the men who had the education and knowledge in regard to pharmacy from inculcating and incorporating in the syllabus what is a true representation of pharmaceutical education; that if the syllabus did not serve that purpose it had absolutely failed.

Mr. Beringer said he had spent a great many hours in preparing a list of titles to go in the list of reference books. When the book came out in print he was surprised to find page after page with mis-spellings and errors that he would be ashamed to admit having had anything to do with. He exhibited a sample page on which he had indicated some corrections, and said such a work was not creditable to the American Pharmaceutical Association, with page after page of mis-spelled titles; that the syllabus as printed did not contain the proper titles of the books and the authors' names were mis-spelled. He asked if the Association thought they should stand sponsor for a book as imperfect as this; and said that the trouble with the book was it had not been prepared by pharmaceutical educators. He asked, if they did not have sufficient intelligence in the American Pharmaceutical Association to outline a course of instruction, having among its members all these teachers from the colleges, where they would get it. He said they certainly would not get it from men who were not educated in pharmacy, and that the trouble was influence had been brought to bear upon pharmaceutical education by men who were not pharmacists, which was a great mistake made in the preparation of the book. His proposition, he said, was that the Council should take very carefully into consideration the advisability of preparing a Pharmaceutical Syllabus which would be expressive of the views of pharmaceutical educators. He said there had been a meeting of the Syllabus Committee held in Pittsburg, and they had met there with the unanimous agreement that the American Pharmaceutical Association should be asked to take over and publish or edit the future revisions of the Syllabus; that they had gone home with the idea that that was settled by the officers of the American Pharmaceutical Association; but, he stated, the work had never been presented to the Association and they had never been asked in Council or in general session to consider the unanimous result of that vote taken at Pittsburg, which was an expression of view of men meeting face to face and talking over the proposition; that it had been recognized at Pittsburg when they were together, that the American Pharmaceutical Association was the proper body to prepare and publish such a book, but when they got away the outside influences changed the whole thing and it had never been presented to the Association, and his idea was that they get it back again where it belongs, to the American Pharmaceutical Association, and act on it.

Mr. Mason said the strength, it seemed to him, of the present Syllabus was in

the fact that it had been revised by three co-ordinating bodies, the American Pharmaceutical Association, the American Conference of Pharmaceutical Faculties, and the National Association of Boards of Pharmacy, and he looked upon this joint work wholly apart from what the book might be as one of the most hopeful augurs in the development and history of American pharmacy; that the mere fact that they had these three agencies at work together, coöperating with and assisting one another, was most hopeful for the future of the calling, whether they got out the present book or any other book, or what they did. Mr. Mason said they could go to work and get up a Syllabus of their own if they desired to, and if they did not care to play in somebody else's yard; that they could get up a book, but who would use the book if the American Pharmaceutical Association got it up; could they expect the faculties to use it, or the boards to use it? He thought it was far better to work in coöperation with those agencies as they were now doing and get what they want by a compromise. He said no one was satisfied with the Syllabus, and no one could be satisfied with it; no one ever would be satisfied with any Syllabus that was gotten out by any one individual because a Syllabus, like a law, is the result of compromise. He called attention to the fact that there were twenty-one men working together and the Association could not expect to get every proposition adopted they wanted adopted. He had himself submitted a great many things that were not accepted, but he had no grouch as a result of their action, but was satisfied with what he did get through. He thought that the majority of wisdom ruled in the end, and said that much of the criticism that had been hurled against the Syllabus was the criticism of one man. He said he would not, as President Beringer had hoped they would not, indulge in personalities, but he thought it was proper for him to say that the Secretary of the Syllabus Committee had been criticised a good deal; that he was not going to defend anybody, and he was not going to defend the Secretary, but he simply stated the fact that he had been criticised for his autocratic methods and for perhaps having his ear to the ground. Mr. Mason said the old Secretary was no longer Secretary; that a new Secretary and Treasurer had been appointed that week, and they were sure to find in him as an officer of the Syllabus Committee everything they ought to expect.

Mr. Mason said in regard to the errors that Mr. Hilton and Mr. Beringer referred to, that there were errors found mostly in the back of the book, in a bibliography; that it was merely an appendix and possibly they ought to perform an operation and get rid of the appendix; that it was of no general consequence whether the names were spelled properly or not, and the book, as a whole, apart from the appendix, would stand a fair criticism.

Mr. Mason thereupon seconded Dr. Anderson's motion that they disapprove the recommendation of the committee; motion carried.

The Secretary then read the fifth recommendation of the Committee on President's Address:

"The recommendation of the President that a *special committee*, consisting of the President of the Association and the living former Presidents to report to the Association at its next meeting upon the subject of standardizing of pharmaceutical degrees, be approved."

Mr. Henry M. Gordin, of Chicago, moved that the recommendation just read also be disapproved; motion seconded.

Mr. Gordin said, in support of his motion, that they had already in the Conference of Pharmaceutical Faculties a body for standardizing or trying to standardize the pharmaceutical degrees; that they had not accomplished very much as yet, although they had been working for two years or more; that in this Conference all the schools were represented and that if they were to now throw over the work and leave it to a committee of the past presidents of the Association, with all due respect to that committee, he could not help but feel it would be at cross purposes and nothing would be accomplished. He impressed on them the fact that the matter of standardizing pharmaceutical degrees is a very difficult one, that each school had its own local conditions to meet, and that at present nearly every school is employing something different in the way of pharmaceutical degrees, and it was not easy for any body of men to standardize pharmaceutical degrees. Mr. Gordin suggested if it was not logical and reasonable that the thing could be done by a conference of pharmaceutical faculties where these schools are all represented better than by the American Pharmaceutical Association or a committee of the Association, in which the schools were not represented. Mr. Gordin strongly felt that the Conference of Pharmaceutical Faculties was the proper body to standardize pharmaceutical degrees instead of a committee of the American Pharmaceutical Association.

Motion carried.

The Secretary then read the sixth recommendation of the committee, which is as follows:

"Your committee regards favorably the proposition to create an Advisory Board consisting of the ex-Presidents of the Association to whom may be referred such subjects as the Council may direct for their report and decision."

It was moved by Mr. W. C. Anderson, seconded by Mr. William Mansfield, that the above recommendation be adopted; motion carried.

The Secretary then read the seventh recommendation of the committee, which is as follows:

"The recommendation is approved that this Association joins with other organizations in urging a modification of the postal regulations to permit the shipment of medicines by parcel post or through the mail, provided that such medicines are not of such a character as to damage the contents of the mail bag and of the class of habit-forming drugs."

It was moved by Mr. Jeannot Hostmann, of Hoboken, seconded by Mr. W. C. Anderson, that the above recommendation be adopted; motion carried.

The Secretary then read the eighth recommendation of the committee, which is as follows:

"We approve of the President's recommendation that a committee be appointed to prepare and introduce a new bill, at the next session of the Congress, improving the status of pharmacists in the army service of the United States."

Upon motion of Mr. Otto Raubenheimer, seconded by Mr. H. V. Arny, the above recommendation was adopted.

The Secretary then read the ninth recommendation of the committee, which is as follows:

"Your committee approves of the recommendation of the President that some plans should be formulated for the protection of the public and for the prevention of accidents due to swallowing bichloride tablets or their solutions. Your committee is not united in the selection of a form and shape to be recommended, but

believe that this should be settled after a discussion in an open meeting of the Association."

Upon motion of Mr. Jeannot Hostmann, duly seconded, the above recommendation was tabled.

The Secretary then read the tenth recommendation of the committee, which is as follows:

"The recommendation of the President that the Year Book of the American Pharmaceutical Association be completed and published within a reasonable time after the expiration of the year which it represents, is approved by your committee."

Mr. H. V. Arny then moved that the above recommendation be adopted; motion duly seconded by Dr. E. A. Ruddiman, and carried.

The Secretary then read the eleventh recommendation of the committee, which is as follows:

"The committee recommends that the suggestion of the President to continue the publication of the Code of Ethics in the Year Book be continued."

It was moved by Mr. H. V. Arny, seconded by Mr. William Mansfield, that the above recommendation be adopted; motion carried.

The Secretary then read the twelfth recommendation of the committee, which is as follows:

"The Committee on Publication, in view of the publication of the Journal and other duties, require some addition to their clerical force, and the recommendation of the President is approved that the appropriation for the use of the committee be paid in quarterly sums in advance. It is further recommended that the Council take steps to give the Committee on Publication more extended power."

Mr. M. I. Wilbert moved that the recommendation be referred to Council for consideration as it involved the disposition of funds and he did not think it fair to Council to take action on the recommendation at that time. Motion seconded and carried.

The Secretary then read the thirteenth recommendation of the committee, which was as follows:

"The committee approves of the publication of an Epitome of the N. F. with the objects stated in the address, and that there be established a Committee on Propaganda with the object of increasing the use and extending the influence of the N. F. preparations."

Mr. M. I. Wilbert moved that the above recommendation be referred to Council with power to act. Mr. W. C. Anderson seconded the motion and asked Mr. Wilbert to add to his motion that it be referred to Council with power to act on favorable recommendation from the general session. Mr. Wilbert accepted the addition to his motion, and it was carried.

The Secretary then read the fourteenth recommendation of the committee, which is as follows:

"Your committee approves of the suggestion of the President that committees recommended by the various sections should be approved by the Council before assuming their duties."

Mr. W. C. Anderson said it seemed to him that the above recommendation would result in unnecessary work of the sections; that if the Chairman of a Section offers a report or delivers an address in which he makes certain recommendations which the Section chooses to refer to a committee, the Section could not under such circumstances choose its own committee; in other words, the

members of the committee would have to be O. K'd by the Council, and he thought the proposition was ridiculous and was a reflection on the members of the Section; that they had been trying to cut their business down during the present meeting and this proposition if carried, would result in hindering the despatch of business in the sections. For the above reason, Mr. Anderson moved that the recommendation be disapproved. Motion seconded and carried.

The Secretary then read the fifteenth recommendation of the committee, which is as follows:

"The recommendation of the President that a filling of vacancies in the offices of sections should be filled by the President when occurring *ad interim* is approved."

It was moved by Mr. W. C. Anderson, duly seconded, that the above recommendation be adopted; motion carried.

The Secretary then read the sixteenth recommendation of the committee, which is as follows:

"Your committee heartily approves of the recommendation of the President that more time should be given by the Nominating Committee when selecting candidates for the office of the Association."

It was thereupon duly moved, seconded and carried that the above recommendation be adopted.

The Secretary then read the seventeenth recommendation of the committee, which is as follows:

"We approve of the recommendation of the President that local branches of the American Pharmaceutical Association should nominate a member for the Council and that the Council itself elects or declines as in its judgment seems best."

Mr. England said he wished to call attention to the fact that Chapter 12 on local branches, Article 4, says: "Each local branch having twenty-five actual voting members shall be entitled to elect a member every three years who shall become and continue a member of Council of this Association for that time." He said they could not adopt the recommendation of the committee without changing the above by-law.

Mr. Anderson said the recommendation was out of order; that it conflicted with the by-laws of the Association, and he therefore moved that it be laid on the table; motion seconded and carried.

The Secretary then read the eighteenth recommendation of the committee, which is as follows:

"The recommendation of the President that the functions of the House of Delegates be restricted to the consideration of topics of general interest, is approved, but the committee believes that a special committee should be appointed to take into consideration the whole subject of the function of the House of Delegates."

Mr. England moved that the above recommendation be referred to Council; motion seconded and carried.

The Secretary then read the nineteenth recommendation of the committee, which is as follows:

"The recommendation that the Association should have its own committee on resolutions and that this committee should hold open sessions for their discussion is approved."

It was moved by Mr. H. V. Arny, and duly seconded, that the above recommendation be referred to Council.

Mr. Nitardy then called attention to the fact that the above recommendation conflicted with a by-law.

President Beringer said he objected to the above motion; that it was not a farcical matter and was not a matter that should go to Council at all; that the committee had approved it and they had already adopted the suggestion.

Mr. Anderson contended it was a farcical matter, and they were taking up things that had already been decided upon and that these things ought not to be before them at all at that time.

A vote was then taken and the motion referring it to Council carried.

The Secretary then read the twentieth recommendation of the committee, which is as follows:

"Your committee approves the recommendation of the President to provide for auxiliary of women members who shall be eligible."

Mr. W. C. Anderson moved that the above matter be referred to Council; motion seconded by Mr. Jeannot Hostmann, and carried.

The Secretary then read the twenty-first recommendation of the committee, which is as follows:

"The plan recommended by the President for consolidating some of the sections as proposed in his address with a view of facilitating the business of the convention was also approved."

Mr. W. C. Anderson moved that the above recommendation be referred to Council; motion seconded and carried.

President Beringer then resumed the Chair and announced that the next order of business was the report of the Committee on the Recommendations of the Retiring General Secretary and Editor, and asked the Secretary to read the report.

The Secretary then proceeded to read the report of the Committee on the Recommendations of the Retiring General Secretary and Editor:

After due consideration, your committee begs to report as follows:

1. The recommendation of Secretary Beal with regard to the *publication of papers* belonging to the A. Ph. A., that *no* permission be given to allow the previous use of the papers by other journals, is approved. If a paper is presented to the A. Ph. A. and is accepted, then it is its property and the granting of permission to print such paper in advance would result in a loss of *property* to the A. Ph. A., and would diminish the value of this asset in proportion to the extent of the use of this privilege. This rule should *not* be modified except by a majority vote of the Council, in special cases.

2. The recommendation of Secretary Beal to the effect that members of the Association attending Council Sessions shall be permitted to speak at such meetings on invitation of the Chairman of the Council, be approved. This would, of course, require a change in the By-Laws.

3. The proposition to amend the By-Laws, Section 3, Article 8, of Chapter VII, be changed by striking out the requirement, that the names of candidates for membership be read at the General Sessions. There seems to be no necessity for this since the list of new members is printed and vised by the Council.

4. With regard to changing the By-Laws so that it shall not be necessary hereafter to read the minutes of the Council to the Association, your committee believes that it would *not* be wise to make such a change. Many members of the Association would feel that they were being deprived of information which they have a right to possess. In addition to this it must be a satisfaction and a safety check for the Council itself to know that all of its acts have been ratified by the parent body.

5. Here we believe that any member of the A. Ph. A. has the right to *call for a report from the Council on any matter* and the introduction of a new By-Law to Chapter VII is unnecessary. Notwithstanding the fact that time is required to read the minutes of the Council, the members of the Association should feel that nothing is held back by the Council which any member of the Association has a right to know.

6. With regard to the proposition which has been made to abolish the House of Delegates, your committee believes that there has not been sufficient time to prove its usefulness, and we recommend that a *Special Committee* of the Council be appointed by the Chairman to consider what changes are desirable in the constitution and function of the House of Delegates which may make it an important aid to the Association.

7. The proposition to have the House of Delegates composed only of Delegates of State Pharmaceutical Associations, is, in our opinion, a good one.

8. With regard to the continuation of the Section on Pharmacopœias and Formularies, your committee believes that by making this Section a sub-Section of another Section, this would still enable the Association to hear and discuss all matters relating to the subjects, and will carry out the idea of the late Prof. Oldberg. The multiplying of Sections, in our opinion, is undesirable for the reason that many of our best members find difficulty when meetings are held simultaneously of attending two or three Sections.

9. Your committee, in conclusion, recommends that in testimony of the unusually valuable services of the former Secretary and Editor, James H. Beal, that an honorarium of $1000.00 be presented to him with the grateful thanks of the Association and with the expression of the hope that many years of usefulness be vouchsafed to him.

Respectfully submitted,

(Signed) R. H. WALKER.
J. S. L. LEMBERGER.
OTTO RAUBENHEIMER.
JOSEPH P. REMINGTON,
Chairman.

Mr. M. I. Wilbert said that several of the recommendations contained in the above report had already been adopted; that the concluding one involved the expenditure of money, and he thereupon moved that the report of the committee be accepted and referred to the Council for their consideration; motion seconded and carried.

Mr. Carter said along that line he thought it would be very unwise for the organization to adjourn without going on record with some definite resolutions in regard to the retiring Secretary, and he therefore offered the following resolutions which he would ask the Secretary to read.

The Secretary then read the resolutions above referred to, which are as follows:

WHEREAS, The conservation of his health has compelled our esteemed General Secretary and Editor, Dr. James H. Beal, to resign these offices that he has so acceptably filled, and,

WHEREAS, This Association is greatly indebted for his indefatigable efforts, zeal and energy along many lines of service to Pharmacy, and,

WHEREAS, His devotion, ability and integrity have endeared him to every member of the Association. Therefore, be it

Resolved, That the American Pharmaceutical Association accepts the resignation of Dr. James H. Beal as its General Secretary and Editor of the Journal of the American Pharmaceutical Association with sincere regret, and, be it

Resolved, That it extends to him the earnest hope, entertained by the entire membership, that the relinquishment of the arduous duties of these offices, will

result in a speedy improvement of his physical condition and that many years of active usefulness and happiness may remain as his portion in life, and, be it

Resolved, That to attest our appreciation of his services in behalf of the Association and of a progressive, ethical Pharmacy, it directs that these resolutions be entered upon the minutes of this meeting, published in the Journal of the American Pharmaceutical Association, and that the Secretary transmits a copy thereof to our beloved retiring officer.

Mr. Carter then moved the adoption of the resolutions by a rising vote; motion seconded by Mr. George H. Schafer, and unanimously carried.

President Beringer announced the next order of business was the consideration of matters coming from the Council. Mr. England announced there was nothing. The President called for matters originating from the different sections, and asked for the Scientific Section first.

Recommendation:—It is recommended by the Scientific Section that the American Pharmaceutical Association express to the Surgeon General of the Public Health Service, its appreciation of the publication of "Digest of Comments on the U. S. Pharmacopœia and National Formulary, and that it requests the continuance of this publication, if possible, more promptly.

It was moved by Mr. Nitardy and duly seconded that the above recommendation be adopted; motion carried.

President Beringer then called for the report of the Committee on the Formation of Local Branches. The report was then read by the Secretary. (Printed in September issue.)

President Beringer said if there was no objection the above report would take the usual course. He then requested the Secretary to read the resolution from the Committee on Pharmaceutical Faculties which had been referred to Council and by Council referred back to the general session. The Secretary then read the resolution as follows:

Resolved, That the American Pharmaceutical Association be requested to define a College of Pharmacy as an Institution, meeting the requirements of the Conference of Pharmaceutical Faculties.

It was thereupon moved that the above report be adopted.

Dr. Wulling said he thought if they adopted the report they would have a little trouble; that it was very difficult to define anything and they would be better off in the end if they did not define a college of pharmacy, and while the motion had been made to adopt the report, yet it had not been seconded, and if he was not out of order he would move that the report be disapproved.

Mr. Whelpley said the motion originated in the Conference following a discussion in which it became apparent that some legislatures looked to the American Pharmaceutical Association for a definition of a college; that the Conference defines a college, that is, defines those that are eligible for membership, and the adoption of this recommendation would be merely concurring in the action of the Conference of the American Pharmaceutical Faculties.

Mr. Arny thought, in view of the previous vote that had been taken, and which was not intended as any discourtesy to the Chair, but simply to bring out the fact that the technical educational subjects should be left to the Conference of Pharmaceutical Faculties, it would be inconsistent to now adopt this recommendation, and he therefore wished to express his disapproval of the matter, and seconded Dr. Wulling's motion.

Mr. Whelpley suggested that the motion of disapproval carry with it an explanation which should go to the Conference.

Dr. Wulling said he had been at one time on a University Committee to define certain terms, and they had found it was a very difficult thing to do, and he believed this Association at some of its previous sessions had been asked to go on record as defining a poison, which was a difficult thing to do; that they all had a general idea what a poison was and they all had an idea what a college was in a general way, but when it came down to specific legislation they were creating something that somebody else would surely find fault with some time or other. He had no objection to anyone going on record and stating that a college of pharmacy was so and so, but he believed there were too many difficulties in the way of formulating a definition and he hoped they would not now go on record as defining what a college is.

Mr. Arny then moved as a substitute for Dr. Wulling's motion that the communication be returned to the Conference of Faculties with an expression of regret that the Association considers the matter not within the province of the American Pharmaceutical Association. The above substitute motion was seconded by Mr. Anderson. Mr. Wulling then withdrew his motion and the motion carried.

The Secretary then read the report of the Syllabus Committee, as follows:

To the American Pharmaceutical Association:—

The Syllabus Committee of your Association begs leave respectfully to present the following report of the year's activities:

At the meeting of the committee, held at Nashville, the final revision of the proof for the second edition of the Pharmaceutical Syllabus was completed and the Executive Committee instructed to proceed with the publication of the book. It was with profound satisfaction that the committee announced the completion of the revision on February 22, 1914, and mailed the first copies of the second edition April 13, 1914. A conference of the Indiana State Board of Pharmacy with the Indiana schools of pharmacy was then in session and Indiana has the honor of being the first State Board to approve and adopt the second edition. Indiana's example has been followed by Missouri, Florida, Massachusetts, New York, Ohio, District of Columbia, Tennessee, Delaware, Texas, Utah, Virginia, South Dakota and Oklahoma.

The action of the Indiana schools was soon followed by New York's Council. It answered the question, What may be involved by its adoption either by schools of pharmacy or by boards of pharmacy?—in the following quotations from the book itself:

Page 8, Line 9. "But a syllabus, like a living language, is necessarily in process of constant change. It must not be used to dam the flow of increasing knowledge either of fact or practice."

Page 16, line 1. "Definition. The pharmaceutical syllabus is prepared to indicate the general scope and character of the instruction to be given by the teacher and the work to be done by the student."

Page 16, line 10. "It is not designed, however, to interfere with such flexibility in courses of study and freedom in methods of instruction as ought to exist in pharmacy schools."

Page 17, line 36. "The syllabus is intended to allow the individual teacher or school the widest possible liberty as to order and grouping of these topics and methods of presentation. Its object is to specify what topics are to be taught by the schools, and expected by the boards without concerning itself with the manner in which this result is reached by any school, teacher or book."

Page 141, line 1. "The selection of the particular line of experiments to accompany a course of lectures upon pharmaceutical *technique* must necessarily be left largely to the judgment of the instructor, the choice of the latter naturally depending upon his opinion of the portions of the subject which need the emphasis of laboratory work."

Page 146, line 10. "Prepare the following official preparations and such additional U. S. P. or N. F. preparations as the time will permit, as far as possible selecting such additional preparations from those especially requiring skill and careful manipulation."

Page 149, line 4. "The time allotted for dispensing pharmacy should be arranged to give a liberal number of hours for actual work in the compounding of prescriptions."

A dean of one of the schools writes, "It is about time to stop the farce of legal qualification as pursued at the present time. A little knowledge may be better than none, but parrot answers will not elevate the professional standing of American pharmacy." That is, the time of the quiz has passed. Board members are now willing to relegate such to the dead past and to unite with the schools to place a prerequisite general and professional educational requirement on the statute books of all the states of the Union. When this is accomplished the way is open to a license valid for the practice of pharmacy throughout the United States. And the Pharmaceutical Syllabus is the leaven at work livening the whole mass of pharmaceutical education. The relations of boards and schools are more cordial. The opinions of earnest workers in both branches of the work are held in greater esteem. The fact that twenty-one men from Massachusetts to Washington, from Minnesota to Texas, could unite upon an outline and detail the same is sufficient evidence to warrant the opinion that the Syllabus is to become a great factor in pharmaceutical education in the United States.

First. It is the first Syllabus ever published of a national character. Its emblem typifies the fact. That 53 state boards and more than 75 schools of pharmacy could unite in the American Pharmaceutical Association in the organization of a National Committee, prosecute its studies through a period of years, and publish a book to be adopted by the schools of pharmacy, and by the boards of pharmacy, for the guidance of both in the preparation of students and their examinations, seems noteworthy.

Second. It is the first syllabus to stand the strain of revision under a reorganized committee. That the committee could agree upon courses of study, subjects to be found therein, detail outlines of time to be devoted to each in hours per week and weeks per year; could perfect a Syllabus of the treatment of the subjects, plan for their intelligent presentation, advise the adoption of modern methods with suitable equipment in laboratories and libraries, seems a work of no little magnitude and of far-reaching influence.

Third. It is the first Syllabus successfully published by a committee without the financial backing of a parent body. That this work could be issued without gift or bequest, without aid of advertisement, or personal contributions, and that the expenses of individuals were contributed without hope of return, seems the highest form of disinterested service.

Fourth. The copyright is owned by the committee. Every copy issued represents the disinterested effort and the personal funds of more than a score of workers from Massachusetts to Washington, from Canada to Cuba.

In the light of this report of progress your committee respectfully recommend:

First—The approval of the Syllabus by this Association.

Second—The annual appropriation of $25 toward the expenses of the committee.

Respectfully submitted,

WILLIS G. GREGORY, Chairman.

JOHN CULLEY, Secretary *pro tem.*

Mr. W. C. Anderson moved the adoption of the above report; motion seconded by Mr. William Mansfield, and carried.

President Beringer said as a member of the Association he desired to have his vote recorded in the negative.

Mr. Anderson rose to a point of order, saying the President had no right to vote. The President stated he desired to have his vote recorded in the negative.

President Beringer called for the resolution from the Section on Pharmacopœias and Formularies.

The Secretary read as follows:

SECTION ON PHARMACOPOEIAS AND FORMULARIES.

This Section recommends that the general session appoint a committee of fifteen on the growth and collection of botanical drugs with a special view to making good the deficiencies in the supply due to the war in Europe.

Mr. William Mansfield moved that the above report be adopted; motion seconded by Mr. Hilton.

Mr. Mansfield said he thought the wording of the motion was a little ambiguous, but the intent probably was to study the kind of drugs which could be cultivated and report to the committee.

Mr. C. A. Mayo asked to be allowed to suggest that he wrote the motion and knew what he meant, and also assumed the responsibility for having written it, and there was an excuse for the Secretary's difficulty in reading it. That what they had meant particularly was the possibility of being able to collect from this year's crop of indigenous medicinal plants some drugs, even a partial supply of them, the supply of which had been cut off by the European war, and the recommendation involved also, the possibility of providing for future supplies in so far as they could do so; that there was great danger on the one hand that they would be cut off entirely from the supply of botanical drugs, and on the other hand, that the public who have an insufficient knowledge of the growing of medicinal plants may waste a great deal of time and energy in trying to grow plants which cannot be grown successfully. He stated further that the object of the resolution was to primarily collect any medicinal plants which were now growing and to provide against a deficiency caused by possible failure to collect the present crop in Europe.

Motion carried.

Mr. Day said he had been elected a member of Council for three years at the last general session and he saw no need of occupying two chairs in Council, and therefore desired to resign his position as Councilor-at-large, leaving a vacancy.

Mr. Clark moved that the resignation of Mr. Day be accepted, which motion was duly seconded and carried.

Mr. F. T. Gordon asked how the vacancy would be filled. Mr. Whelpley replied that it had been customary, under such circumstances, to elect someone at open session to fill the vacancies. He had in mind something that he had expressed previously more than once, that there should be some arrangement whereby the retiring president automatically became a member of the Council; that as things now were such was not the case; the retiring president is nominated for election, but it left a year's vacancy, which represented the most important year that he could serve. The retiring president, he said, had everything in hand and suddenly is dropped out of the Council, which procedure happened right along.

Mr. Whelpley said he would not take up the time discussing a remedy, but he would like to nominate Mr. Beringer to fill the vacancy.

Motion seconded by Mr. Roehrig.

Mr. W. C. Anderson moved that the nominations be closed and that the Secretary cast the affirmative ballot for Mr. Beringer. Motion seconded by Mr. Schafer, and carried.

The Secretary then announced that he had cast the ballot for Mr. George M. Beringer as member of the Council, to succeed Prof. Day, after which Acting President Apple declared Mr. Beringer elected to that office.

Mr. Whelpley then said he presumed that there was now a vacancy left in the list of nominees for the Council, and it would be in order to nominate some one for that vacancy. He thereupon nominated Mr. Mayo.

Mr. Day said it was perfectly right to take care of Mr. Mayo in the same way they were taking care of the retiring President.

Nomination seconded.

Mr. F. T. Gordon moved that the nominations be closed and that the name of Mr. Mayo be placed on the ticket of list of nominees.

Motion seconded and carried.

President Beringer announced they had very nearly completed the program, but there was one item that had been omitted from the first general session, namely, the reports of the delegates of the various bodies, and asked the pleasure of the convention as to the reports of the delegates of the National Association of Wholesale Druggists, National Retail Druggists' Association, National Association of Manufacturers of Medicinal Products, etc. He suggested that the delegates file with Council their written reports.

Mr. Gordon amended the suggestion by saying they be published if it was deemed desirable.

Mr. Mansfield incorporated these suggestions in a motion, which was seconded by Mr. Gordon, and carried.

Mr. Eugene G. Eberle, of Dallas, Tex., asked if there had been a committee appointed to extend a vote of thanks to the local committee and to the citizens of Detroit.

President Beringer replied there had not been but that the Chair would be pleased to entertain such a motion.

Mr. F. T. Gordon thereupon moved that the thanks of the American Pharmaceutical Association be extended to the local committee and to the firms which had aided so greatly in making their stay pleasant, particularly to Parke, Davis & Company, Frederick W. Stearns & Company, and to the Detroit druggists generally.

Mr. Eberle said he would like to offer as an amendment that they include the ladies in the motion. Mr. Gordon accepted the suggestion as a part of his motion.

Mr. Roehrig stated that as long as it did not involve the expenditure of money it was not necessary to refer it to the Council, and he would offer an amendment, that the hotel management be included in the vote of thanks for allowing the Association the privilege of using the Convention Hall. He said he did not think there was any extra charge for that.

President Beringer replied there was not so far as he knew.

Mr. Apple recommended that they include in the list of firms all the firms which had provided special entertainment, and include also a vote of thanks to the ladies.

One of the members then said they should also include in the motion a vote of thanks to the local press.

Mr. Gordon accepted the above amendments and suggestions as a part of his motion, and it was then seconded and unanimously carried.

Mr. Whelpley said they had elected a Permanent Secretary, but had not fixed his salary and, after consultation, he moved that the salary of the permanent Secretary for the ensuing year be fixed at $750.00. He explained that the by-law provides that the salary shall not exceed $1200.00 per year, so they were well within the provision of the by-law.

Motion seconded by Mr. Apple, and carried.

Mr. C. Lewis Diehl said he thought the success of the meeting was largely due to the very efficient services of the local Secretary, Mr. Seltzer, and he moved a vote of thanks be extended to that gentleman.

Mr. Wilbert, in seconding the motion, said he wished to bring to the attention of the Association that during the time he had been attending A. Ph. A. meetings this had been by far the most profitable meeting that he had attended. He said also he did not as a rule attend the meetings for the entertainment feature, but that from a scientific point of view they had been afforded better opportunities at the present meeting to attend to their business and profit by it than they had ever had at any previous meeting of the Association, and he therefore suggested that when the motion was put to a vote the members be requested to rise.

Th motion was then unanimously carried by a rising vote.

President Beringer then appointed as a committee to escort the newly-elected officers to the platform for installation, Mr. W. B. Day, of Chicago, H. M. Whelpley, of St. Louis, and John G. Godding, of Boston, and he requested that they conduct Mr. Caswell A. Mayo, of Brooklyn, to the Chair.

The committee then escorted Mr. Mayo to the Chair and introduced him to the President.

President Beringer said it afforded him unusual pleasure to greet Mr. Mayo as President of the American Pharmaceutical Association; that he was not new to them; that he had been tried and they knew his excellent worth. The retiring President said in honor of Mr. Mayo's election to the office of President, it became his duty to present to him the badge, which was the evidence of his office, and he believed that Mr. Mayo would maintain the office as pure as the gold of which the insignia was made, and that the office would be kept free and untarnished during his career as President.

Mr. Beringer said it now became his duty to extend to Mr. Mayo the emblem of authority, and said he hoped that he would have great pleasure during the year in enforcing that authority, and he could say that he also extended to him the hearty coöperation of every member of the Association.

Mr. Mayo, in responding, said he had the reputation of not being particularly modest, or easily abashed, but the contrary appeared on this occasion; that he had felt so nervous at the approach of the consummation of the highest honor that could be bestowed upon a pharmacist, that he had been constrained to write out

what he had to say lest his feelings should overpower him, and he should say too much. He said he had just been reminded by a very close friend immediately before being inducted into office not to emulate our distinguished Moose President by having an inaugural address of 28,000 words, and added that if he talked to the full extent of his heart, he believed he would talk to the extent of at least 28,000 words.

Mr. Mayo then delivered his address of installation.. (Printed in September issue.)

President Mayo then asked the committee to induct the Honorary President, Mr. George H. Schafer, of Fort Madison, Iowa, into office.

Mr. Schafer was escorted to the platform and Mr. Whelpley introduced him to the President, saying that while it was a great honor for Mr. Mayo to be President of the Association, he was not alone in the honor of the President's office, because he had associated with him an honorary President, and Mr. Whelpley said they had never before elected to office a person who had such a long record of work in the discharge of the duties of an office as Mr. Schafer; that in 1881 he became acting President and in 1914, consummated his work as honorary President, which was certainly a long term.

President Mayo, on behalf of the Association, welcomed Mr. Schafer, and said that he was quite sure that the members of the Association would profit by Mr. Schafer's long and arduous labors in behalf of the Association and of pharmacy.

Mr. Schafer said he was never more surprised in his life than when he was advised of the honor, and he was deeply moved, and appreciated it more than he could express.

President Mayo then asked the committee to induct the new First Vice-President into office, Mr. L. D. Havenhill, of Lawrence, Kansas.

The committee then escorted Mr. Havenhill to the platform and presented him to the Association, and to the President.

President Mayo said it gave him great pleasure to greet one of the most earnest workers of the Association as First Vice-President, and that it was a well-deserved honor which had been conferred upon him.

Prof. Havenhill said he was deeply moved by the honor which had been bestowed upon him, and he wished to assure the Association that he would endeavor to continue to serve the best interests of the Association, and to discharge his official duties to the very best of his ability.

Mr. Mayo said he wished to apologize for the absence of the Second Vice-President, Mr. C. Herbert Packard, of East Boston, Mass., and the Third Vice-President, Mr. Charles Gietner, of St. Louis, as they had been called away by the exigencies of the time-table.

President Mayo then asked the committee to conduct the newly-elected members of the Council to the platform. Mr. Beringer and Mr. M. I. Wilbert were escorted to the platform, and President Mayo said that the success of the American Pharmaceutical Association had been due to the conservative manner in which its affairs had been conducted, and that they had very wisely put the management of the affairs of the Association into the hands of the Council, and it was the excellent quality of the men composing the Council that had made the Association a success, and they were very fortunate in having Mr. Beringer and Mr. Wilbert,

who had taken such an active interest and done such excellent work in the Association, in the past, to serve them in the Council.

President Mayo then asked the committee to conduct the newly-elected General Secretary to his office, Mr. William B. Day, of Chicago. Mr. Day was escorted to the platform, and President Mayo said that the General Secretary needed no introduction as he was so well known and had served the Association so ably in the past.

Prof. Day said he was deeply grateful for the honor conferred upon him, and that he was not unaware of the duties the office carried with it; that he had had some little experience in Association work as Secretary of his state Association, although this was a much larger undertaking, and he would ask the Association for their assistance and forbearance in the conduct of his office.

Mr. C. Lewis Diehl, the re-elected Reporter on the Progress of Pharmacy, was then escorted to the platform, and presented to the Association, and President Mayo said it was unnecessary to introduce Mr. Diehl, as he was known wherever pharmacy was known, and he hoped Mr. Diehl would live for a long while and continue to occupy his office.

Mr. Diehl said he would make a very short address; that he would say to the Association that his work in the past would have to be the criterion of what he would do in the future; that at all times he endeavored to do his very best in the performance of the duties of his office.

President Mayo then announced that the newly-elected Treasurer would be installed. The committee escorted Mr. Whelpley to the platform, and Mr. Godding said it gave him great pleasure to introduce Mr. Henry M. Whelpley as their Treasurer.

President Mayo said he might be in error, but he was under the impression that he and Mr. Whelpley both were in attendance at the 1888 meeting; that he believed that was the first meeting for both of them. Mr. Whelpley replied that it was not his first meeting, and that he had attended his first meeting before that time. Mr. Mayo said he was an older man than he was then.

Mr. Whelpley said he would not at that late hour make a speech, but that he must say that from year to year he seemed to become more and more interested in the work of the office of Treasurer, and as he said to the Council when he was elected, he believed he really enjoyed the work. The only regret he had, Mr. Whelpley said, was that all of the members were practically paid up to date in their dues, and as they all answered his first communication, it deprived him of the mental exercise that was required during the first few years he held his office in devising a series of letters to send to delinquent members.

President Mayo said he was delighted to learn that the Treasurer had an interest in the funds of the Association; that of course interest is a very important part of the income of the organization, in regard to the invested funds.

President Mayo said it now became his duty to present a new officer to the Association, a man who had served them faithfully in emergency and done the work admirably, and he was very glad indeed to have an opportunity to voice the sentiment of the members of the Association of the sense of appreciation for the excellent service that had been done by Mr. E. C. Marshall, the Acting Editor,

who now assumed the post of Acting Editor of the Journal of the American Pharmaceutical Association.

Mr. Marshall said the announcement of his selection to fill this post came as a great surprise to him. He thanked the Association for the confidence they had shown in bestowing upon him this high office, and said as far as it was in his power, his entire thought and energy would be devoted to the service of the Association, and to the cause of pharmacy. The highest service of the Journal was to serve American Pharmacy, and as far as laid in his power his every effort would be devoted to the uplift and advancement of that end, and if he failed, he wished them to understand that it would not be because of any lack of effort, but it would be because the power to succeed had not been bestowed upon him. Mr. Marshall said he sincerely hoped that he would be able to fulfill all their expectations, and he asked, as he had asked in his first editorial, for the sympathetic consideration and help of every member of the Association.

Mr. Joseph W. England was then installed as Secretary of the Council. President Mayo said Mr. England needed no introduction, that he had served the Association long and well in the past and it was to be hoped that he would be able to continue to render such service for a long time in the future.

Mr. England thanked the Association for the honor conferred upon him and said he would endeavor to perform the work of his office to the best of his ability, as he had done in the past.

There being no further business before the Association, on motion duly made, seconded and carried, the General Session of the Association stood adjourned until the Annual Meeting of 1915.

MRS. FRANK H. CARTER,
Treasurer.

MRS. KITTIE H. GRAVER,
First Vice-President.

Minutes of Section Sessions

MINUTES OF THE SESSIONS OF THE WOMEN'S SECTION AT DETROIT.

The first session of the Women's Section was called to order on Tuesday at 9:30 a. m., by the President, Mrs. John G. Godding, in the parlor of the Hotel Pontchartrain.

The Divine blessing was invoked by the Reverend Dr. Pence of the Second Presbyterian Church of Detroit.

Mrs. Harry Kingsmill, of London, Ontario, furnished musical selections.

Greetings to the women of the convention from the Detroit hostesses were extended by Mrs. J. H. Webster, Chairman of the Ladies' Entertainment Committee. The response was given by Mrs. G. D. Timmons, of Indiana.

The Second Vice-President, Mrs. M. M. Gray, of Illinois, took the chair during the delivery of the President's address.

ADDRESS OF THE MADAM PRESIDENT.

MRS. JOHN G. GODDING.

With joy filling my heart I greet you to the meeting of the Women's Section.

Our appreciation of the privilege of coming to this fair city, "The Goddess of the Inland Seas," is more than I can fittingly express. We come to you bringing a warm clasp of friendship, not as strangers, but as kinsfolk, for some of us come from the ancestral homes of your forbears. From these pleasant surroundings to which you warmly welcome us, we shall be loth to depart, for I predict that at the close of this week we will be singing in unison, "Michigan, My Michigan."

We count it as an inestimable privilege to be known as members of a Section of this honored Association, the peer of any of its class in the world, a power for pharmaceutical development. We are grateful to it for their acceptance of us as a part of their organization.

The objects of this Section are to emphasize the right and capability of women to engage in pharmaceutical pursuits as a means of livelihood; to unite the women employed in Pharmacy for mutual encouragement and assistance; to labor for the improvement of legislation regulating the registration as pharmacists of women employed in the practice of Pharmacy in hospitals and other public institutions; to unite the women members of the A. Ph. A. ıd the women of the families of members of the A. Ph. A. in a section for social purposes and to coöperate in the promotion of the general progress of Pharmacy and of the American Pharmaceutical Association.

To all fair-minded persons the Women's Section has fully justified its being. The record of its work accomplished; the zeal and earnestness displayed by its members in effecting their permanent organization amid the torrid conditions of Nashville, and the creditable program which they arranged, all attest the wisdom of its establishment. To the present time it has secured twelve members as accessions to the Association and four of these were secured by a non-professional woman. The underlying purposes for the formation of this Section seem so vaguely understood that it seems well to quote from one high in authority in regard to this subject.

"It was believed that the creation of a Section of this kind would give more

formal recognition to the ladies who so regularly attend the convention and are so loyal to the A. Ph. A. principles. It is also the opinion that a Section of this kind can accomplish more for the women than the independent organizations, because the Section will have behind it all the influence of the A. Ph. A. and the prestige of its sixty years of history. It is also thought that such a Section would afford an opportunity for emphasizing the fact that women have a definite place in Pharmacy and are as much to be heard in pharmaceutical affairs as are the men, which has always been the attitude of the A. Ph. A."

The Women's Section desires to share in making the A. Ph. A. all that is possible in the way of an organization useful to Pharmacy. We know the A. Ph. A. is the only national organization in which all pharmaceutical interests meet. There is no distinction between clerk and proprietor, jobber or manufacturer, chemist or teacher, and even editors are given a hearing. As has been often said,

MRS. JOHN CULLEY,
Madam President.

MRS. H. M. WHELPLEY,
Second Vice President.

"The A. Ph. A. is the great clearing-house of Pharmacy." Into these opportunities and possibilities of this wide domain, the women have been counted worthy to enter. We realize that the best things can only be secured by united and concerted action. There is something wonderful in the power which organized effort can develop. The Women of this Section appreciate in the highest degree the distinction conferred by the Council in christening it "The Women's Section," and their greatest ambition is to make it a useful part of the parent Association, by directing the attention of women pharmacists to the quality and character of work this Association is accomplishing, and to use every avenue of influence open to them in extending its work. Our women can do important work that cannot be relegated to any other Section, a work so far-reaching in its influence that we may prove a mighty factor in the future of the Association. Carlyle said, "Give a thing time to grow. If it can succeed it is a good thing." Organization at large range is extremely difficult. We cannot accomplish everything in a day or a year, but we can do it if let alone. The present urges us to renewed zeal and the future beckons us to that success, which, though

" 'Tis not in mortals to command.
But we'll do more, Sempronius, we'll deserve it."

In Pharmacy women are succeeding, partly because of their genius for real hard work.

Statistics of influence can never be compiled. Each year brings promising information of young women who are entering the various colleges of Pharmacy, and of their being eagerly sought for responsible positions. The trend of the time is toward an active demand for women as pharmacists in Hospitals, State Food and Drug Laboratories, by Boards of Health as analysts, as well as for teachers in Colleges and in the retail drug business.

The Women's Pharmaceutical Associations on the Pacific Coast, New York, Chicago and Louisiana, each one "a live wire" in promoting the interest of Pharmacy, are signal lights to arouse women to the advantages to be derived from concerted action.

"The world bestows its rewards, both in honors and money, but for one thing and that is Initiative," or the doing of the right thing without being told. But next to doing without being told, is to do when you are told once. It seems to me the Women's Section was created to work as do the other Sections, for the betterment of Pharmacy, along the lines and in the way women are privileged to arrange and conduct their sessions.

The scope of the Women's Section will lead to the establishment of new ideas and new ideals, and *Ideals* lead the world. Ideals live though men die. We should urge all women pharmacists, as their bounden duty to become members of the A. Ph. A., and to assist in increasing its active membership. If we have not accomplished tangible results in proportion to our efforts, we are large in hope, in an increasing belief in the value of Pharmacy for women, and that better things are yet to come. The Women's Section hopes to build its organization so substantially and to become so true a helpmate, that it will be the one indispensable Section of the A. Ph. A.

I consented to be your President for what may have seemed a second term, because we only organized at Nashville. I have kept just a little in advance of you, but at the close of this Convention I shall fall back, to walk side by side with you in the ranks, pledged "to keep step" in all your efforts for the advancement of your work. In retiring from the office of President I wish to express my appreciation for the high honor tendered me and the trust reposed in me by the President and Council who appointed me your first leader. To thank also the Officers of the A. Ph. A., the pharmaceutical press and all members who have assisted and encouraged this Section in its beginning. We bespeak your coöperation for our successors and faith and hope in us. I would express my appreciation for the coöperation of my Officers and Committees and to the Secretary who has been "a tower of strength."

I wish I could stir up in your minds a realization of the great opportunity set before you who are to follow in the path which we have broken. "'Tis not for me to prophesy. It is the young who must see the vision and follow it. The old may but dream dreams." Take this resolution home with you:—that when we return we make renewed efforts not only to disseminate the knowledge of the deliberations of this meeting but earnestly strive to further the aims and purposes of this grand Association which we are proud to serve.

REPORT OF THE SECRETARY.

Your Secretary has no detailed report to make, beyond the usual work of the office. The correspondence and coöperation with the standing committees constitute the most of the duties of this office and the work of those committees will be reported by the several chairmen. ANNA G. BAGLEY, Secretary.

REPORT OF THE EXECUTIVE COMMITTEE.

Owing to the absence of Mrs. Claus, Chairman of the Executive Committee, the work has fallen upon the other members and, though we have done the work

gladly, I am not sure that we have accomplished all that we might. At any rate we have little to report.

During the time that has elapsed since the meeting at Nashville no special business has been brought to our attention and our work has been mostly an effort to obtain papers for this program. A good many requests were made but few responded. Lack of responsiveness may be due to the way the appeal was made or in some other way the fault of the committee.

One thing I have felt particularly and that is the necessity of interesting wives of druggists. This Section was not created primarily for women pharmacists, and we should never have a large part in the program. Owing to my limited acquaintance with women members who are not pharmacists I have been unable to do much in that direction. ZADA M. COOPER.

The Membership Committee submitted the following:

The Membership Committee has secured a total of twelve members during the past year. Individual reports have not been submitted by all the members. Miss Henkel of Chevy Chase, Md., reports as follows:

"I have to report that I have written 100 letters in an endeavor to obtain new members for the American Pharmaceutical Association. Fifty of these were addressed to women pharmacists and fifty to men, not only in the district allotted me, but also in Ohio and Missouri. I am very sorry to say that thus far I have not had a single response."

Through the Secretary's office a general knowledge has been gleaned of the efforts made by this committee, all of whom observed the rally-days set aside by Chairman Packard, writing from 25 to 50 letters each. The committee feels that this is good work, and like all other advertising, will have its effect in future work along this line.

The report of the Chairman's work in District Number 3, comprising Ohio, Indiana, Kentucky, Illinois, Michigan and Wisconsin, is as follows:

Eighty copies of the Proceedings of the Women's Section were mailed to women graduates of the two colleges of pharmacy of Chicago, to women pharmacists of the city of Chicago, and of the State of Illinois. A personal letter, giving the objects and aims of the A. Ph. A. and of the Women's Section especially, were mailed to each of 40 of the above-mentioned 80, and ten personal interviews were obtained; all of these young women expressing themselves as very much interested in the Women's Section, and when circumstances permitted promised to become members.

Only two copies out of the 80 copies of Proceedings sent out were returned marked "Not Claimed." These two copies were promptly re-addressed and sent to two prominent women pharmacists who for some reason had let their memberships in the A. Ph. A. lapse.

Your Chairman has the promise of one member, now resident in the State of Idaho, and has secured the memberships of two,—one a resident of Oak Park, Ill., having charge of the Pharmacy in one of Chicago's large hospitals for women and children, and one in charge of the pharmacy department in a hospital in Atlanta, Ga.

According to the latest statistics obtainable, your Chairman finds that there are, in the State of Ohio, sixty-seven women pharmacists, with but seven of these, members of the A. Ph. A. Illinois has ninety-three registered women, and thirty assistant registered women pharmacists, with but five of them members of the A. Ph. A. Kentucky has thirty-two women pharmacists, with not one woman member. Indiana has seven women pharmacists, with not one of these a member. Michigan, nine women pharmacists and one a member, and Wisconsin sixty women pharmacists, with one member, making a total of two hundred and ninety-eight women pharmacists in the six states of this district, with but fourteen of these who are members of the A. Ph. A.

What is true of District No. 3 is probably true of all other districts—truly, the next membership committee has a large field to work upon.

Since our last meeting—August, 1913,—your Chairman has gathered and compiled a list of the names and addresses of over three hundred women pharmacists from various sources—the personal items mentioned in the several Drug Journals, and the Druggists' Directory, etc. This list has been turned over to your Secretary for her files and for future reference.

MRS. M. M. GRAY, Chairman.

The Press Committee reported as follows:—

Madam President and Members:—

In January, 1914, the Secretary notified me of my appointment as Chairman of the Press Committee.

I am deeply gratified for the honor and regret my inability to make a complete report of the work accomplished.

I addressed a communication to each member of the committee asking their coöperation and items of interest to the Section. I regret that but one reply and one newspaper clipping was received during the entire year.

We are very grateful to the Secretary for carrying much of the work and responsibility of this committee the past year.

As a delegate from the Women's Section to the Utah Pharmaceutical Association, I had an opportunity to speak of the Women's Section and made a plea for a state organization. I have also forwarded to the Secretary a paper read before the Utah Association by Mrs. Wynn Eddy, the wife of a pharmacist.

The Women's Section of the A. Ph. A. has been getting a great deal of publicity in various drug journals and especially the Journal of the A. Ph. A., which items are too numerous to mention in this report.

ELIZABETH H. CULLEY, Chairman.

The Chair appointed as Nominating Committee, Miss Elizabeth Jenkins, Chairman; Mrs. E. A. Ruddiman, Mrs. G. D. Timmons, Mrs. William B. Day and Mrs. George F. Payne.

Mrs. Kingsmill sang several selections.

SECOND SESSION.

The second session of the Women's Section convened at 10 o'clock Friday morning.

President-elect Mayo of the A. Ph. A. claimed the privilege of presenting the Women's Section with a gavel, which offer was promptly accepted with thanks.

Mrs. G. T. Chamberlin, of Hartford, Mich., President of the Michigan State Federation of Women's Clubs, brought the greetings from 18,000 federated women in Michigan to the women of A. Ph. A.

Mrs. Herman Neuhoff, of Detroit, accompanied by Miss Harriet Ingersoll, furnished the music for this session.

Mrs. Chamberlin addressed the Section on "What Druggists' Wives Can Do to Raise the Standard of the Profession."

Chairman Zada M. Cooper, presented the following papers:—

"First Aid to Druggists," by Mrs. Wynn L. Eddy; "The Drug Habit and Its Bearing on Pharmacy," Anna B. Schlumberger; "The Views of a Woman Pharmacist," Mrs. I. A. Anderson, and "Sunday and Early Closing," Mrs. R. L. Thompson.

The Secretary read the following communication:—

The Women's Organization of the National Association of Retail Druggists extends to the Women's Section of the A. Ph. A. a cordial greeting and expresses the hope that your meeting will be a satisfactory and a successful one, and that the high aims of your Association may be fulfilled. With best wishes to officers and members, we remain, Yours sincerely,

MRS. JESSIE F. WATERHOUSE, President.
MRS. NELLIE FLORENCE LEE, Secretary.

Also greetings from Mesdames Clarissa Roehr and Bruce Phillip, of San Francisco, both of which expressed the hope that the Association would hold its 1915 meeting in that city.

The Committee on President's Address reported its approval of the ideals and hopes expressed in the address of the Madam President, and heartily approves its recommendations. The Committee on Resolutions expressed its great sorrow at the passing-away of Mrs. J. M. Good of St. Louis and tendered sincere sympathy to her bereaved husband and family. It discussed the work of women not alone in the Association, but in the larger work of the world and extended the warmest thanks of the Section to the Detroit Committee, to President Mayo for his gift of a gavel, and to Mesdames Chamberlin, Kingsmill, Neuhoff and Ingersoll and to those who contributed papers to the meeting.

The following were elected as officers for the ensuing year:—President, Mrs. John Culley, Utah; Hon. President, Mrs. S. A. D. Sheppard, Boston; First V. P., Mrs. Kittie Harbord Graver, Penn.; Second V. P., Mrs. H. M. Whelpley, Missouri; Third V. P., Miss Jean Gordon, Illinois; Historian, Mrs. George B. Kauffman, Ohio; Treasurer, Mrs. F. H. Carter, Indiana; Secretary, Miss A. G. Bagley, Ohio; Member Executive Committee for three years, Mrs. John G. Godding, Massachusetts; Membership Committee, Mrs. M. M. Gray, Misses Alice Henkel and Mary L. Creighton, Mrs. C. T. P. Fennell and Mrs. C. A. Stover.

MRS. GEO. B. KAUFFMAN,
Historian.

MRS. JOHN G. GODDING,
Executive Committee.

MINUTES OF THE SECTION ON PRACTICE OF PHARMACY AND DISPENSING.

The opening session was called to order by Chairman Nitardy at 2 p. m., on Wednesday, August 26.

The Chairman, in his preliminary remarks, requested the lenient judgment of the members in his work for he had been in the care of a physician since May 15, and had only recently obtained his permission to be present at the Convention. At the conclusion of his opening remarks he asked Asso. Chairman Becker to take the Chair during the reading of the Chairman's address. (Printed in September issue, P. 1309.)

When Mr. Nitardy had concluded his address, on motion of Prof. Hynson, the following gentlemen were appointed to consider its recommendation:—Messrs. Hynson, Raubenheimer and Weinstein.

Mr. Nitardy then resumed the Chair and called upon Prof. Hynson to read a paper entitled, "All-Fool's Day at the Dispensing Counter."

Prof. Hynson prefaced the reading of his paper by referring to the recent agitation for the abolishment of the Section. Every once in a while, he said, some one, who perhaps had never attended one of the sessions, advocated its abolishment. But, speaking from his personal experience, he thought this section one of the most useful of all those of the Association. Before its establishment he had found it difficult to get in touch with the meetings of the Association. The Scientific Section was "over his head," and at meetings of other sections matters were discussed of no vital interest to him as a retail pharmacist, and it had taken him three years of persistent work to establish the fact that, in retail pharmacy and dispensing there was enough actual science, art and knowledge to require the establishment of this Section. With that idea as his inspiration he had attempted in his paper to show the need of science, art and knowledge at the prescription-counter. The selection of All-Fool's Day was in consequence of its being between seasons, and also that it might be a day with a little nonsense in it. (Printed on P. 1537, with discussion.)

Mr. F. M. Apple read a paper entitled, "What Constitutes Good Prescription Service?" This was followed by the reading of a paper by Prof. Ed. Kremers on, "The Incompatibility of Chloral Hydrate and Potassium Bromide in Hydro-Alcoholic Solution."

Mr. Apple contributed a paper entitled, "Filling Capsules—A Suggestion." (Paper and discussion, P. 1562.)

Mr. Cornelius Osseward was called to read a paper on "What Percent of the Prescriptions Dispensed in Your Store Can You Conscientiously Declare to be Dispensed with Fresh Drugs and Chemicals?" (Paper and discussion, P. 1554.)

Prof. Arny contributed a paper entitled, "The American Institute of Prescriptionists." Paper and discussion, P. 1542.

Mr. C. P. Beckwith read a paper entitled, "The Pharmacy of Adrenalin." (P. 1547.)

The Chairman then called for the regular order of business, the nomination of officers for the ensuing year, and the following gentlemen were nominated:—Cornelius Osseward for Chairman; Irwin A. Becker for Secretary, and D. S. Jones for Associate Chairman. Adjourned until Thursday at 9:30 a. m.

SECOND SESSION.

In his opening remarks, Chairman Nitardy called attention to the fact that it was a joint session with the Michigan State Pharmaceutical Association and he invited the officers of that Association to seats upon the platform. The election of officers for the Section was then held, and the gentlemen nominated at the previous session were elected as the officers of the Section.

Mr. Nitardy then read a paper entitled, "A Plea for Reform in the Dispensing of Ointments and Similar Preparations."

Mr. F. M. Apple read a paper by Charles H. LaWall entitled, "A Formula for a New Type of Antiseptic Solution."

Mr. Kimmich contributed a paper on "The Deterioration of Galenicals."

Mr. Caswell A. Mayo read a paper entitled, "The Accuracy of Clinical Thermometers."

The Committee on Chairman's Address reported as follows:—

REPORT OF THE COMMITTEE ON ADDRESS OF THE CHAIRMAN.

After a very careful consideration of the excellent address of Chairman Nitardy, which should be carefully studied by every pharmacist, your committee begs to present the following report, which approves of the recommendations herewith presented:

1. *Preservation of Records.* There is no question that the records of the Section on Practical Pharmacy and Dispensing should be preserved and should be available for the future officers.

2. *Compilation of a Mailing List.* Such a list should be compiled especially of those members who take an interest in the Section so they can readily be reached.

3. *Formulation of a Set of Questions.* No doubt the symposium which has been arranged by Chairman Nitardy will be a record breaker in the history of the Section and should be kept up each year.

4. *Systematic Research on Practical Pharmacy.* Above all, this should be done as there are very many questions which come up in the daily practice of the Pharmacists that need further investigation, and should be solved.

In conclusion, we ask every member to study the address of the Chairman very carefully and to help to assure the success of the Section on Practical Pharmacy and Dispensing, which is *the* Section for the practical Pharmacists.

Respectfully submitted,

JOSEPH WEINSTEIN.
OTTO RAUBENHEIMER.
HY. P. HYNSON, Chairman.

And on motion the report was adopted.

Mr. Wilbert addressed the Section on the work of the American Medical Association and in connection therewith exhibited several of its publications, and commented upon their usefulness to pharmacists and to physicians.

Mr. Hall read a paper entitled, "A New Antidote for Corrosive Sublimate Poisoning."

Adjourned to meet at the call of the Chairman.

Reports

REPORT OF THE COMMITTEE ON PATENTS AND TRADEMARKS.

To the Officers and Members of the American Pharmaceutical Association your committee respectfully present the following report:—

Degradation of the Materia Medica:—The skeptical attitude assumed by leading physicians and teachers of medicine, during the past quarter of a century, is responsible in great measure for the neglect of materia medica by the medical colleges and inadequate knowledge of drugs as remedial agents on the part of the medical profession. To such extent had this therapeutic nihilism reached, that it was said of the medical societies, "If any daring member has introduced a subject bearing on medical treatment, it has been with an apologetic air and humble mien, well knowing that if his remarks had any reference to the utility of drugs in the treatment of disease they would be subjected to good-humored banter, and received by those sitting in the seat of the scornful with amused incredulity."

Rehabilitation of the Materia Medica:—We are informed by Prof. W. A. Puckner, Secretary of the Council on Pharmacy and Chemistry of the American Medical Association, that the report of the Board of Trustees made to the House of Delegates at the last annual meeting, (held in Atlantic City) does not bear out the statement that drug nihilism is rampant in the medical profession at the present time.

This change in the attitude of the medical profession, is very gratifying to those of us who are lovers of the pharmaceutic art, and we hope to see pharmacy elevated to its proper position as a branch of medical practice as the final result. Pharmacy, or the art of selecting, preparing, preserving, compounding and dispensing medicine, to meet the requirements of a rational drug therapy, is dependent upon the medical profession and a fountain can rise no higher than its source.

This change in attitude, is doubtless, largely due to the constructive work of the Council on Pharmacy and Chemistry of the American Medical Association. The Committee on Therapeutic Research and the Committee on Useful Drugs, are making progress in a way that holds out hope for the pharmacy of the future. But to secure the full benefits of this work, pharmacists and manufacturers must coöperate with the Council in its efforts to rehabilitate a rational materia medica.

The rehabilitation of the materia medica, is inhibited by our irrational patent and trade-mark laws, which permit the inventor of a new chemical substance, medicine, or food product, to patent the product, patent the process, and register as a trade-mark the name by which it is to become afterward known and dealt in. By this plan it is hoped, by the "proprietary" medicine manufacturers, to establish a system of perpetual monopoly in place of the seventeen-year monopoly permitted under the patent law.

In marked contrast to this system is that adopted by Germany and most foreign countries, where no product-patents are allowed, only process-patents, and where no trade-mark law stands in the way of competition between the manufacturers of the same products, who are free to deal in them under their currently-used names, when they succeed in discovering improved processes for preparing them.

Suggested Points of Patent Law Revision:—Our patent laws need revising in at least three important particulars. First,—the law should except from patent-protection, chemical substances, medicines and foods, the same as is done in Germany and most foreign countries. Processes only should be patented, leaving the products open to competition under their currently-used names. However, if

the patented process relates to a new product hitherto never produced, all substances of like nature should be considered as having been made by the patented process until proof to the contrary is given. This is the provision adopted by the German patent law.

It has been stated that such a law would be unconstitutional in this country, because the burden of proof in case of infringement rests upon the complainant, it being assumed that the defendant is innocent until he is proved guilty. This objection is evidently groundless, as President Taft, known to be a competent constitutional lawyer, in one of his last presidential messages, requested Congress to so amend the patent laws as to throw the burden of proof upon the would-be infringer.

Second:—The patent law should provide that the inventor of a process for the production of a new product, shall provide the new substance with a name which shall appear as the principal title in the application for patent, and shall also be used as a principal title on all labels, in all advertisements and in all literature published by the owner of the patent, his heirs and assigns.

Third:—The patent laws should be so amended as to except the patenting of aggregations or mixtures of drugs, or, in other words, ready-made prescriptions. In Caffall M. S., Vol. 16, p. 22, we learn that the Board of Examiners in Chief of the U. S. Patent Office, finally decided in relation to such mixtures, that "it was never intended that any composition of matter or mixture of simples should be the subject of monopoly. If Rhubarb and Senna, or Calomel and Jalap, were for the first time put together, he who should do it, whether regular practitioner or quack, would not be an inventor or discoverer under the law. If done by a physician, it would be only the exercise of ordinary professional skill; if by another, it would be but an ignorant jumble of things, having supposed virtues and benefits to be obtained by the union of known drugs."

Yet, in spite of this decision, which seems to have been salutary for a time, the patent office has returned to the practice of granting patents for ready-made prescriptions, as will be noted by referring to United States Patents Nos. 1,081,069, 1,086,193 and 1,086,900, which are essentially for simple mixtures of substances to which the Council on Pharmacy and Chemistry has objected, and so far objected rather effectively, because at least several applications for patents along similar lines have been since refused.

It is evident, therefore, that the patent laws should be so amended, as to prevent further transgressions of the principle underlying the law, which requires that inventions to be patentable shall be inventions in fact, and not mixtures of old and well-known drugs claiming special new therapeutic virtues not in fact possessed.

Physicians' "Proprietaries":—The manufacturers of this class of products have possibly done more to divert the practice of pharmacy and the prescription business away from the retail druggist, and centralize both in the great manufacturing houses, than have the manufacturers of synthetic chemicals. They have been aided in this by the general practitioners of medicine throughout the country, who, on account of their ignorance of prescription writing, have relied upon the skill of the manufacturer to produce elegant pharmaceutical mixtures, rather than upon their own ability to write prescriptions. Many of these ready-made compounds are just as worthy a place in the U. S. P. or N. F., as the compound pharmaceuticals now contained therein. But none of them should be subject to patent protection, unless displaying in their make-up greater skill than naturally is to be expected from skilled pharmacists, chemists and physicians, in the ordinary practice of their respective vocations.

As just stated, for a time the Patent Office refused to grant patents for ready-made prescriptions, on the ground that no greater invention is shown by their inception than should naturally be expected from skilled practitioners.

Objectionable Proprietary System:—A new method of protection was there-

fore evolved, known as the "proprietary system." It consists of coining a name for a medicine and registering it as a trade-mark. The name is not used as a trade-mark, however, that is, as a mark to distinguish an article from another *brand* of the same article, but is employed as a name to distinguish one article from another. This is not in keeping with the intent of the trade-mark law, but competitors let it go at that, for law-suits cost money; and, besides, manufacturers and retailers of medicines generally are doing the same thing.

The trade-mark law should be so amended, as to prevent the registration of names of medicines as trade-marks. Long ago, Commissioner of Patents Seymour told your Chairman that he believed the time would come when the Government would refuse to register words as trade-marks, because of their misuse afterward. Mr. George H. Lothrop, of Detroit, who in his day was one of the leading patent and trade-mark lawyers in the United States, in a letter addressed to your Chairman, dated October 5, 1894, says: "It has always seemed to me that the great evil of the proprietary system, lies in the ability of ingenious and wealthy advertisers, to delude a large portion of the public into buying their wares at exorbitant prices. In several cases I have forced a disclosure of the cost of these proprietary medicines, and have generally found that the largest manufacturing cost was the bottle and the label, and yet, by expensive and persistent advertising, the stuff is sold at retail for from 75 cents to $1.00 a bottle.

"The objectionable features of selling an article like this under a trade name, will probably in time be corrected by the courts, for I believe that they will eventually hold that where a man makes a new article which has no proper name, or a common appellative, and gives it a name by which it alone is known, he cannot hold an exclusive right to that name, under the law of trade-marks. If I am right in this position, then anybody will have the right to sell a proprietary medicine under its one name, and trade-mark rights will be restricted to names which either contain the name of the manufacturer or consist of some fanciful title which leaves the common appellative open to the public."

A Remedy for the Misuse of the Trade-Mark Law:—There is a remedy for the misuse of the trade-mark law as applied to patented materia medica products worthy of consideration in this connection. Take, for example, saccharin as listed by the house of Merck & Co., in Merck's Index. The patent for Benzoyl-sulphonic Imide, having expired, the name "saccharin," although claimed as a trade-mark, had by the decision of the Supreme Court of the United States in the Singer Sewing Machine case (1895), become common property. Merck & Co., recognizing this fact, listed the product in the *Index* under the name *Saccharin* and then added, as synonyms, the other chemical names, and all the so-called trade names under which saccharin is known, as follows:

> "Saccharin Merck-Refined; Benzoylsulphonic Imide; Garantose; Glusidum; Gluside; Glycophenol; Glycosine; Saccharol; Saccharinol; Saxin; Sykose; Zuckerin; Glusimide; Agucarina; Toluolsüss; Anhydroorthosulphaminebenzoic Acid; Benzosulphinide (U. S. P.); Neo-saccharin; Saccharinose.

It is evident that when saccharin is prescribed under any of the trade names Merck & Co. consider it perfectly legitimate for the pharmacist to dispense "Saccharin, Merck-Refined."

What should prevent the application of the same rule to unpatented materia medica mixtures? Why should not each manufacturer and retailer have his own brand of the same thing, and use the names of all competing brands on his label as synonyms?—that is, of course, if the secret of the composition of the article has been divulged. In that case each manufacturer might use his own name, firm name, or initials, for pointing out his brand, as "Saccharin-Merck," or Fluid-extract of Cascara Sagrada, P. D. & Co., or Diphtheria Antitoxin, Mulford.

Secret Nostrums:—There is still another class of so-called proprietary medi-

cines concerning which there is much to be said in objection, and that is the secret nostrums falsely advertised to the general public as specific or cures.

If the public is to be its own doctor, people should at least know what they are buying as medicine, and should be protected from paying more for medicines than they are worth. What would happen if a law were passed forcing the manufacturers to disclose the formulas of their widely advertised products and confine their statements in advertising to the truth? It would put an end to the sale of some of the "proprietaries," but those worthy of survival would live and thrive. Probably the demand for the worthy would increase because of less competition and because confidence in their virtues would be gained by knowledge of their composition.

Your committee can readily imagine the shock that will be produced on the minds of the "proprietors" on reading such a suggestion. In their opinion such legislation is confiscatory. "Every little druggist will make an imitation of our medicines and substitution will ruin our business," is the reason given for opposing such legislation.

Let us stop a moment and consider this question of confiscation. Where did the manufacturers of these "Proprietaries," get their formulas? They have already answered that question in part. You will find this partial answer in the "Petition of the Proprietors of and Dealers in Proprietary Medicines," addressed to the United States Congress and read at the annual meeting of the "Proprietary Association of America," St. Louis, Oct. 17-20, 1898.

"Petition of the Proprietors of and Dealers in Proprietary Medicines, including the Wholesale and Retail Dealers in Drugs, of the United States."

> "The undersigned, representing the industries mentioned, hereby earnestly petition your Honorable House of Representatives and Senate of the United States, that the War Tax upon Proprietary Medicines may be promptly or speedily revoked, for the following potent and valid reasons:—
>
> "1. Because it is founded upon entirely erroneous ideas as to the origin and value of these medicines, the general or prevalent idea being that these medicines are mere nostrums, the outcome of ignorance and greed, for gain; and that they are of no value as curatives for disease and are deserving of no legal recognition.
>
> "WHEREAS, The real fact is that they, to a very large and universal extent, are the best and most successful prescriptions of our most advanced and successful physicians. The story is simple. The physician, and the more eminent he may be the more likely this result is to happen, sends his prescription to his druggist, who carefully prepares and sends it to the patient: this is followed by others and others, all made of the same ingredients and the same proportions and they are largely or even eminently successful. The druggist is alive to this—he knows from his own observation that he has in hand a cure for a certain definite form of disease, and gives it a name and launches it upon the public as a remedy for a certain form of disease."

Price Protection for Secret Nostrums:—We are now confronted by an anomaly. After doing all in their power to supplant the pharmaceutical profession with the medical profession and the public, the "proprietary" medicine trade is appealing to pharmacists to support them in securing legislation for the protection of the manufacturers against "fraudulent substitution," and the pharmacists are asking for price-standardization laws for the protection of prices of commercially-controlled and nationally-advertised products. Both of these objects are certainly in a sense desirable under existing conditions, but both should be carefully considered before the American Pharmaceutical Association commits itself to any action concerning either.

It should be remembered that the exclusive license granted to pharmacists, is largely dependent upon benefits conferred by the pharmaceutical profession upon the public. These benefits consist of, (1) the supplying of the public with medicines properly prepared from drugs selected by persons skilled in pharmacognosy, standardized to conform to the requirements of the U. S. P. and N. F., and compounded and dispensed by skilled pharmacists. Do the secret nostrums on the market conform to these professional and scientific requirements? (2) The protection of the public, from the results of ignorance and greed on the part of those who desire to exploit the sick for financial gain. Are pharmacists doing their duty to the public in this respect, when they deal in secret nostrums?

The manufacture and sale of secret nostrums, is certainly not legitimate pharmaceutical practice. Secrecy and monopoly are opposed to the principle of fraternalism and coöperation, which is claimed to be the foundation stone of professionalism in medicine and pharmacy. And yet both professions are violating this principle every day; the medical profession by prescribing secret and monopolized medicines, and the pharmaceutical profession in making and selling them.

When the above facts are taken into consideration, it is evident that neither profession has a right to demand exclusive right to practice its respective professions unless it is willing to fulfill its professional obligations to the public.

The question then is, how far can the pharmaceutical profession sanction a plan in which the secret nostrum manufacturers profit at the expense of the public? It is claimed that price-protection legislation will prove of great benefit to the manufacturers of nationally-advertised goods. Care should be taken by the pharmaceutical profession in dealing with this subject, and in aiding in securing such legislation to see that nothing is done to further degrade pharmacy.

The "proprietary" medicine trade have built up an enormous commercial business in drugs, representing millions of dollars of capital, which business has supplanted the pharmaceutical profession, and largely taken the place of the doctor in treating the sick. As for pharmacy and medical laws, which, theoretically, limit the practice of medicine and pharmacy to licensed practitioners, they do not apply to either vocation when conducted at wholesale.

The "proprietary" trade is already strong enough to defy the medical and pharmacal license laws. Surely nothing should be done to increase the grip of the nostrum trade on the public, and to decrease the influence and the business of medical and pharmacal practitioners. A law permitting the alleged proprietors of secret nostrums to fix the price of prescriptions confessedly stolen from the medical and pharmaceutical profession, and falsely advertised, as specifics or cures, has no defense. However, the false system of advertising adopted by these manufacturers, may be finally checked by the enforcement of the Shirley amendment to the national pure food and drug law and thus curb the secret nostrum business.

In regard to price protection, as you of course know, several bills are now before Congress having as their object the protection of prices for nationally advertised goods. President Wilson, in referring to such legislation expresses the opinion that "underselling to injure competition or create a monopoly is wrongful and should be punished; that low selling, when not for these reasons, should be permitted, otherwise little merchants would suffer and aim of legislation to curb trusts, defeated." If legislation were first secured forcing the medicine manufacturers to place their business on a legitimate basis in relation to the public, price protection laws as thus explained by President Wilson seem to present many advantages. Until the "proprietary" medicine business is purged from fraud and unfair competition with the medical and pharmaceutical professions, it should be exempted from protective laws of any kind whatever.

A Law to Prevent "Fraudulent Substitution":—While this discussion regarding price-protection of "proprietaries," has been going on, the "proprietors" have

been busy in securing legislation to prevent fraudulent substitution, by passing a law in New York State more clearly defining what is meant by that term. As there is a vast deal of difference between fraudulent substitution and legitimate competition, illustrated by the act of the pharmacist who recommends a pharmacopœial or National Formulary preparation in place of a secret nostrum, this law may aid in making that difference more apparent. We refer to the "Act to amend the New York Penal Law in Relation to Trade-Marks" approved by Governor Glynn on April 14, 1914, which will take effect September 1, 1914. Clause 8 reads as follows:—

> "Section 2354. Offenses against trade-marks. A person who shall knowingly sell, offer or expose for sale any article of merchandise, and shall orally or by representation, name or mark written or printed thereon or attached thereto or used in connection therewith, or by advertisement, or otherwise, in any manner whatsoever, make any false representation as to the person by whom such article of merchandise or the material thereof was made, or was in whole or in part produced, manufactured, finished, processed, treated, marketed, packed, bottled, or boxed, or falsely represent that such article of merchandise or the material or any part thereof has, or may properly have, any trade-mark attached to it or used in connection with it, or is, or may properly be, indicated or identified by any trade-mark, is guilty of a misdemeanor and punishable for the first offense by a fine not less than fifty dollars nor more than five hundred dollars, or imprisonment for not more than one year, or both such fine and imprisonment, and for each subsequent offense by imprisonment for not less than thirty days or more than one year, or by both such imprisonment and a fine of not less than five hundred dollars or more than one thousand dollars.

The fixing of prices of medicine by unlicensed practitioners for licensed practitioners to follow under penalty of the law; and the establishment of a law which appears to be so ambiguously expressed as to admit of being contorted, to punish pharmacists for offering to sell similar preparations of their own manufacture, are alike objectionable.

Your committee has the privilege of calling your attention to legislation recently enacted in the Philippine Islands which may well be adopted by the entire United States. This legislation, which went into effect July 1, 1914, requires the publication of quantitative and qualitative formulas on all labels of medicinal products; and that the advertisements of all such products shall be truthful and be accompanied with such formulas wherever they shall appear. No medical or pharmaceutical journal or daily paper containing an advertisement of a medicine will be permitted to circulate in the Philippine Islands unless the publisher complies with the law. Price protection under the protection of such a law would be largely free from the objections which now apply to patented and secret medicines sold at fanciful prices and advertised in a misleading manner to create a fictitious demand.

Redemption of Pharmacy from Unlicensed Practitioners:—Your committee also takes pleasure in reporting further progress in relation to the propaganda going on in various parts of the world, for the redemption of pharmacy from unlicensed practitioners and its restoration to a professional vocation.

At the Saratoga convention of the New York State Pharmaceutical Association held June 23rd to 25th, 1914, attention was called in the report of the Committee on New Remedies, to the fact that the "tar-barrel" has not yielded as many remedies as in former years. Nevertheless, the manufacturers of chemical and synthetical products are very active and are introducing products that will replace those on which the patent is about to expire. This can be observed in the case of aspirin or acetylsalicylic acid, the manufacturers of which are now introducing novaspirin, which is methylene-citryl-salicylic acid. The same holds true of atophan-2-phenyl-quinoline-4-carboxylic acid—which is being replaced

by novatophan, the ethyl ester of paratophan-6-methyl-2-phenyl-quinolin-4-carboxylic acid.

The Committee also calls attention to the good work that has been done in the United States as well as in foreign countries, in analyzing so-called "proprietary" medicines. Credit is given to the Chemical Laboratory of the American Medical Association and to the Ohio and also to the North Dakota Dairy and Food Commissioners, who have greatly helped in the exposure of some of the worthless nostrums. Excellent work in this connection has also been done in this country, by Prof. L. E. Sayre of the Kansas State University, and Dr. S. J. Crumbine, Secretary of the Kansas State Board of Health, and by Prof. D. H. Thoms, director of the Pharmaceutical Institute of the University of Berlin, and Dr. C. Mannich, of the Laboratory of the University of Goettingen. By the publication of the analyses of these remedies, the physician and pharmacist are being informed of their identity, thus permitting their investigation by these professions.

Turning to the Proceedings of the American Medical Association we note the Chairman's address read before the Section on Pharmacology and Therapeutics, at the Sixty-fifth Annual Session, held at Atlantic City, June 22nd-26th. The Chairman, Dr. John F. Anderson, Director of the Hygienic Laboratory, U. S. Public Health Service, Washington, D. C., called attention to "Some Unhealthy Tendencies in Therapeutics." This subject is well worthy of consideration by the American Pharmaceutical Association. Dr. Anderson says, "A large number of new materia medica products have been introduced within the last decade, for which claims have been made so extravagant as to warrant classing some of them as 'fake' remedies. The exaggerations displayed in advertising many other products which in themselves are of marked therapeutic value, has a tendency to throw disrepute upon them also." The tendency to prostitute pharmacy and therapeutics for dishonest commercial exploitation, is certainly a very unhealthy tendency and is throwing the entire drug business into disrepute. The monopoly established over some of these preparations by the great commercial houses engaged in the materia medica-supply business, by patents and by the control of their generic names and by secret formulas, and the large capital used in their commercial exploitation by misleading advertisements is tending to divert the preparation of medicines away from the pharmaceutical profession and the practice of medicine away from the physician, and into the hands of unlicensed practitioners, ignorant alike of disease and its proper treatment.

Is it Ethical for a Physician to Patent Surgical Instruments or Profit by Their Sale? If Not, Why is it Right for the Pharmacist to Do So?—We also note with interest that the A. M. A. is facing a similar problem concerning the assignment of patents to the Association, that the A. Ph. A. has under consideration. The patentee of a new surgical instrument presented his patent to the A. M. A., offering to donate his invention to the public under the protection of the Association. The offer is still under consideration.

However, there is one feature of this offer differing from those made to the A. Ph. A. The inventor promises not to engage in the making of money out of his invention. In the debate resulting from this offer, certain points regarding medical ethics, which have a strong bearing upon the recognition of pharmacy as a profession by the medical profession, were brought out, vital to the interests of pharmacists.

According to medical ethics it is unprofessional to patent surgical instruments or medicines or engage in the business of making them for sale, on the ground that a physician cannot occupy a *judicial* position toward the things he advocates as therapeutic agents or prescribes for the treatment of the sick.

Under such ruling, pharmacy can never be recognized as a profession because the pharmacist has things to sell. But how about the physician who sells his advice? How about the physician who dispenses his own medicine? How

about the medical journals that accept the advertisements of medicines? especially those commercially controlled by patents and trade-marks? Are they in a *judicial* position? How about Ehrlich and his patented and "trade-marked" Salvarsan, and the royalty he receives from the manufacturing chemical house engaged in marketing it? How about the Journal of the American Medical Association and its Council on Pharmacy and Chemistry? Does not the Journal accept advertisements of commercially-controlled products and do not the editors and members of Council—at least some of them—get pay for services rendered? Are they in a judicial position? Evidently they are not if accepting money for work done, necessarily places them on the side of advocates rather than judges, even though they obtain their pay indirectly from the advertisers.

It is true that we are all honestly biased by the things we believe in. But it is not true that no man can be *honest* who receives pay for his services. This fact is recognized in scientific circles, and medical and pharmaceutical societies and press exist for the very purpose of correcting the bias of selfish interests by free and open discussion. What is needed is impartial discussion of every advertised materia medica product by the professional societies and press, not only by physicians but also by those engaged in their manufacture. Open the door to the manufacturers of these products and let us hear what they have to say about them.

But that does not mean open the door to firms or corporations to discuss materia medica products in the professional societies or press. *Science requires individual responsibility.* Let the *individuals* having the personal charge of the manufacturing of the medicines used by the medical profession, tell us how they are made and what they are made of. If they are not sufficiently educated as scientific men to do that, they are not fit to have charge of such important work and we want to know about it.

Neither does it mean that we should open the professional societies and press to commercial exploitation by the manufacturing houses. The educational channels must be kept free from pretense and error and not converted into an advertising bureau. The press and societies can control the situation, either by refusing to accept information in their advertising columns or reading columns, concerning commercially controlled products except to condemn them; or by establishing a board of control, admitting to fellowship manufacturing houses willing to donate their product patents to the public and permit them to be honestly discussed. If there is no way to establish a scientific literature concerning advertised materia medica products, because they are being advertised, it is time to make the advertising of medicine a penal offense.

Under a revised system of patents free from the objectionable monopolistic features of our present patent-system, and under conditions that may readily be brought about by reforming the trade-mark system, there appears to be no greater objection to physicians availing themselves of patent-protection than pertains to their protecting their literary productions by copyright. Under present conditions the patent-system and the trade-mark system are conducted in direct opposition to the ethical principles underlying the proper practice of either medicine or pharmacy.

As for the patent and trade-mark laws, are we not forgetting their true object? The Constitution of the United States upon which these laws are founded, if they are constitutional, informs us in relation to the patent law, that, "to promote progress in science and useful arts," Congress shall have the power to grant authors and inventors for limited times the exclusive use of their respective writings and discoveries. If the patent law can be so applied to medicine as to promote progress in medical science, promote knowledge of the medical arts, and promote the commercial interests of physicians, pharmacists, botanists, bacteriologists and others engaged in the practice of the arts of preparing medicines and applying them to the relief of suffering and the curing of the sick, then let us as professional men coöperate in securing its application in such manner as to attain these objects. It is to the advantage of all concerned that inventors shall be encouraged

to invent and publish their inventions for the benefit of science, and the arts, and commerce. Let us not refuse them the financial rewards and scientific credit which is their due. *But we must know who they are and hold them personally responsible before we can assure ourselves that the rewards and credits go to whom they belong.*

Finally, let us not forget that such rewards and credits, according to the patent law, only belong to those who have in fact invented something *new and useful,* and do not belong to those who have invented nothing but names and are building up monopolies in the sale of medicines which do not belong to them. The patent law properly applied to medicine is compatible with professionalism and scientific progress; but the so-called "proprietary" system, with its secrecy, abuse of the patent and trade-mark laws, "hog-latin" nomenclature, misleading advertisements, and pretense to invention and discovery, is a hydra-headed monstrosity unfit to survive in this day of the square deal. The trade-mark law was never intended to protect capital invested in a business which is so apparently contrary to public welfare.

When it is considered that during the past thirty years, tens of thousands of alleged "new remedies" have been commercially introduced by advertising and recommended as superior to materia medica products already in use, and not one tenth of one per cent of them have proved of sufficient therapeutic value to justify their introduction, also that physicians have been largely deluded by misleading advertising to prescribe them, also that pharmacists have been forced to sell them; and the interests of the sick have been correspondingly injured; it is evident that all concerned should coöperate in correcting this abuse. Therefore your Committee suggests as an initial move the plan described in the following

PREAMBLES AND RESOLUTIONS IN REGARD TO NATIONALLY ADVERTISED DRUGS AND MEDICINES.

WHEREAS, The Supreme Court of the United States in the Singer Sewing Machine case (1895) decided that: "The result, then, of the American, the English, and the French doctrine universally upheld is this, that where, during the life of a monopoly created by a patent, a name, whether it be arbitrary or be that of the inventor, has become, by his consent, either express or tacit, the identifying and generic name of the thing patented, this name passes to the public with the cessation of the monopoly which the patent created," and

WHEREAS, In the same decision the Supreme Court states: "Where another avails himself of this public dedication, to make the machine and use, the generic designation, he can do so in all forms, with the fullest liberty, by affixing such name to the machines, by referring to it in advertisments and by other means, subject, however, to the condition that the name must be so used as not to deprive others of their rights or to deceive the public, and therefore that the name must be accompanied with such indications that the thing manufactured is the work of the one making it, as will unmistakably inform the public of the fact," and

WHEREAS, It has been decided by the courts and it is a recognized principle of law, that "When an article is made that was theretofore unknown, it must be christened with a name by which it can be recognized and dealt in, and the name thus given it becomes public property, and all who deal in the article have a right to designate it by the name by which it is alone recognizable,"[1] and

WHEREAS, There can be no such thing as an exclusive right to any particular line of industry,[2] unless that industry is controlled by a patent, so that any person who knows how to make the same thing, and has obtained his knowledge in a legitimate manner, has a right to do so, and to offer the same for sale under its identifying name, i e., the name used by the purchaser in buying the article, and

[1] Leclance Battery Co. vs. Western Electric Co., 23 Fed. Rep., 227.

[2] See "Report of the Commissioners Appointed to Revise the Statutes Relating to Patents, Trade and Other Marks, etc." under Act of Congress, approved June 4, 1898.

WHEREAS, Medical and pharmaceutical science, and the requirements of pharmacopœial standardization and scientific literature demand the adoption of a fixed and changeless nomenclature, the publication of accurate knowledge of each materia medica product, as to its identity, physical, chemical and therapeutic properties, methods of preparation, compounding and dispensing, and the verification of claims to therapeutic efficacy by clinical tests by competent observers, and

WHEREAS, Public welfare demands that each brand of every product shall be branded with the name of the producer or his identifying mark or trade-mark, that his identity may be known and his responsibility fixed, thus permitting physicians, pharmacists and the public, to specify and receive the brand they may prefer, therefore, be it

Resolved, That WE, THE AMERICAN PHARMACEUTICAL ASSOCIATION, invite the manufacturers of nationally advertised materia medica products to send to the Secretary of the Association a list of their advertised products, the same to include generic names or titles or trade-marks to be used for specifying brands, whereby the Association representing the Pharmaceutical Profession may be aided in providing the materia medica products on the market with proper nomenclature, and be it

Resolved, That we hereby give notice to manufacturers who neglect to respond to this invitation, that by so doing they tacitly consent to the use of the names of their products as common property, by any and all persons who may know how to make the same articles and have obtained their knowledge in a legitimate manner, and be it

Resolved, That we supply the medical and pharmaceutical journals with copies of these Preambles and Resolutions requesting editors to publish them and call especial attention to their provisions; and, after the lapse of 90 days, that the Secretary of the Association mail a copy to each manufacturer advertising in the medical and pharmaceutical journals, and the principal manufacturers advertising in the newspapers, inviting them to coöperate with the Association in fixing the nomenclature of the nationally advertised materia medica.

PROFESSOR PUCKNER'S REMEDY FOR THE TRADE-MARK ABUSE.

A copy of the above report, including the Preambles and Resolutions, was sent to Prof. W. S. Puckner, Secretary of the Council on Pharmacy and Chemistry of the American Medical Association for criticism and comment. Unfortunately his reply did not reach your committee in time to avail ourselves of all of his valuable suggestions. However, the following are so important that we have herewith added them to the report. Prof. Puckner says:

"There is no doubt that the proprietary system is an unqualified abuse, but the correction of this abuse is largely dependent on aggressive action by pharmacists and has little or no interest for medical men, despite the fact that they have from time to time registered their objections.

"The resolutions offered in connection with the report are rather vague, and if adopted will, in my estimation, lead to nothing except possibly to create further confusion. To my mind resolutions something like the following would be much more to the point:

WHEREAS, The objects and uses of a trade-mark are at the present time not thoroughly understood, and

WHEREAS, A number of the words registered in the United States Patent Office are in reality words descriptive of the goods on which they are used and can in no way be construed as marks to distinguish the origin or manufacture of the goods from other goods of the same class, now, therefore, be it

Resolved, That the American Pharmaceutical Association request the Commissioner of Patents to discontinue the registration of words and phrases contrary to the spirit and letter of the existing law; and be it further

Resolved, That the American Pharmaceutical Association instruct its General Secretary to apply for the cancellation of trade-mark registration in accordance with the provision made in the rules of the Patent Office relating to registration and annulment of trade-mark.

After reaching Detroit so much interest was manifested in the subject of patents on medicinal chemicals on account of restricted supplies from war conditions existing in Europe that the following resolution was added to our report at the request of many prominent representatives of pharmaceutical and drug interests present at the meeting:

RESOLUTION REGARDING PATENT LAW AMENDMENT.

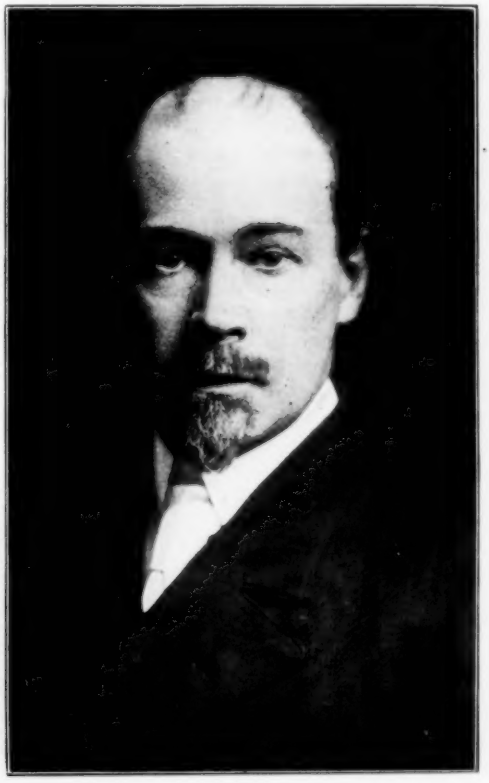
WHEREAS, The difficulty experienced in this country of obtaining supplies of materia medica products patented by the United States and manufactured abroad, and the consequent increase of prices, owing to existing war conditions, emphasizes the necessity of providing ways and means for producing these products in the United States, therefore, be it

Resolved, That we, the American Pharmaceutical Association, hereby memorialize the Congress of the United States, appealing for an amendment of the United States Patent Law which shall make it obligatory on the part of manufacturers of such products to manufacture them in this country within a specified time dating from the issue of patents, under the penalty of revocation of patent privileges.

Respectfully submitted,

FRANCIS E. STEWART, M. D.,
For the Committee.

HARRY V. ARNY, PH. G., PH. D.,
Editor Druggists' Circular.



FREDERICK J. WULLING, PH. G., LL.B.,
President, American Conference of Pharmaceutical Faculties.

Editorial

ERNEST C. MARSHALL, Acting Editor..... .....63 Clinton Building, Columbus, Ohio

Thanksgiving.

HOW much there is expressive in this homely, old Anglo-Saxon word. How it appeals to the heart, stimulating the better nature of all mankind.

A delightful day, with its crisp air; its hint of winter's joys; its home-gatherings, with union of those long-separated; its jollity and its feastings; a day when all America can unite in heart-felt thankfulness that the Mayflower and her little, feeble band, seeking for political and religious freedom, came at last to their destination, and made a safe haven on "the stern and rock-bound" coast of New England, even though their highest achievement had been but this day.

We of the pharmaceutical world have much to be thankful for. We have the joy of living, the pleasures of helpfulness to others, to those who are sick and ailing. Much to be thankful for! Why, the whole world is before us to make us glad. The whole world? No, to our sorrow, we regret that, not the whole world, for across the sea there is much to make us sad. But, perhaps, with all, out of this *debacle* may come a better and a higher life for the peoples of Europe. "God works in a mysterious way His wonders to perform," and it may be that from the cruel war will come great good to the whole world. Out of the storm and stress of the French Revolution came the freedom of the *paysan*, the abolishment of arrogant nobility and liberty for the people. Some one has said that that Revolution was the first attempt to make the "Golden Rule" effective in this world, and perhaps out of this cruel strife will come another step toward that glorious end; one which will destroy that devilish paraphrase of that splendid rule of Life, which, enunciated by David Harum, has done incalculable harm to the world. "Do others before they do you, and do it first," is a devil's rule of life. Out of this strife, cruel and terrible though it be, may come to the people of these warring countries, the knowledge that they and they alone, are "THE STATE," and that all men are brothers, children of One Great Father. Kings, Emperors, Kaisers and nobles may learn that, "*Dei Gratia*," there is nothing higher or nobler in this world than a true man. That he alone is the NOBLEMAN, who is ennobled by his deeds and by his character, not by his birth.

Let us then, in this free America, where in the "melting-pot" of nations, we free men from the dross which clogs and stifles life in the older civilizations, give Thanksgiving that we are free, and that, although Government of the people is not without fault, it is infinitely better than government of lineage, government of militarism, of those "born to the purple."

On this day, give thanks not alone for what good we have, but also for what we have not of the evils of life, and let us bend our energies to making Pharmacy better, higher and nobler, and America, in truth, what our forefathers laid foundation for,—a land of freedom and of opportunity for the oppressed of all nations.

We stand upon the threshold of the door of Opportunity. Not the door of Commercialism, of sordid and debasing trade. But the opportunity of showing to the world the way to a better and a higher Civilization. Let us on this day dedicate ourselves to be better men and wiser men, and let our most fervent prayer upon this Day of Thanksgiving be, that we may do high and noble service to Pharmacy and, in so doing, to this land where, no

"Rank is but the guinea's stamp,
The man's the gowd for a' that."

THE WAR AND THE DRUG MARKET.

THE initial flurry incident to the declarations of war in Europe, has now somewhat subsided, and it is beginning to be possible to approximate the actual value of drug and chemical commodities of various sorts.

Under the early excitement many, who were dependent upon foreign supplies for their continuance in business, became "wild" and their efforts in the market to obtain future supplies, was doubtless a chief factor in forcing abnormal prices. This rush to obtain supplies for an unlimited period, became absolutely ridiculous, going to the extent even of affecting values on indigenous products in the drug line. As for example, the placing of an order for 500 barrels of powdered elm bark, *Ulmus Fulva* (which in its *habitat* is far removed from the scene of war), was uncalled-for and unwise and is an illustration of the lack of information on the part of those charged with the purchasing of supplies for large users of drugs. There is no more reason for an advance in the price of powdered elm bark than there is for change in the orbit of the moon, and yet it has come to us.

A very large part of the advance in prices of drugs and chemicals is due to what may be styled "frenzied buying" on the part of large consumers who do not seem to be well informed of sources of supply.

It is certainly true that all foreign products are due for an advance in price, and in some instances this is basic,—that is the original source of supply is curtailed or absolutely cut off,—but the greatest influence with respect to foreign products has to do with shipping facilities.

Immediately following the declaration of war, the merchant marine practically suspended business, so far as individual movements were concerned, and the earliest factor entering into the question of prices, is that of transportation, rather than a question of supplies at the place of origin.

We have now to note the reaction following the early frenzy.

It is not new to state, that commerce is the controlling influence in the world. It is to be noted, in the present situation, the movement of merchandise is of more importance to the world's welfare than the movement of armies, which latter can affect only a comparatively limited territory, while the first is world-wide in its influence.

It has been truly said that the present contest at arms, has not been paralleled in the history of the world, and yet the lines of commercial influence are already being drawn and are bound to influence the mighty contest now on.

The earnest endeavor of some of the nations engaged in the present conflict, seems to be and really is to ensure safety at sea for merchandise. This is very clearly shown by the desire of shippers, who have merchandise to transport across the sea, to secure their shipments under the flag of a nation which shall have at least a claim to exemption from war conditions.

The drug markets at the present time, are showing a reaction from the frenzied influences above mentioned toward a meeting of the conditions which actually exist. We note, in the general drug list, a very general decline from the excessive prices prevailing immediately after the outbreak of the war, the natural reaction following the conditions. Market values on foreign drugs and chemicals are

still much higher than the normal, and legitimately so, because of the increased cost, not of production, but of transportation.

From general reports which come to us, we are assured that the ordinary supply of foreign drugs for the current "crop," is held at the source of supply, and, in many cases, an extraordinary crop is in store.

The difficulty in transportation, the increase in transportation rates, the increase in marine insurance and the uncertainty surrounding deliveries, are now the only remaining excuses for general advances in values. Perhaps the most common is the marine insurance item.

It has come to our knowledge that marine insurance, in some cases at least, has been placed on a 20% *ad valorem* basis and the least advance of which we have knowledge is 25% advance on former prevailing rates.

It has been claimed with respect to the drug products of the warring nations, that the present year's "crop" has been sacrificed to the marching armies. Later reports deny this and the statement is made that this year's "crop" is considerably above the normal, and all that is needed to bring market values down to or even below the prices prevailing before the war, is a reasonably safe means of transportation.

The extension of the war to the colonies of the nations involved, will naturally extend the conditions heretofore stated, to certain products in these colonies, as for example, the drugs which we procure from Central and South Africa, and, possibly, as the Asian condition is developed, to East Indian and Japanese products. But as in respect to these, it seems that for the most part, sufficient stocks are already in this country to tide over a period of many months.

In regard to chemicals, it is well known that Germany has been the center of the chemical industry for many years, and that it has held the master-hand over many of what are classed as the necessary chemical products, particularly the organic or synthetic products. The German government has been very largely paternal with respect to its chemical industries, and they have been fostered in a variety of ways, until they have practically a world-control. The stoppage of these industries in Germany, has worked a hardship to the entire world, in that it must either pay exorbitant prices for certain products or do without.

We Americans, confronted with such a condition, naturally rebel, and exclaim: "Why can't we do these things ourselves?" The question is easily answered by the statement that we certainly can, but we should follow it by the subsequent statement that "We won't" and "Cause why?" Simply because, commercially, we canont put ourselves on the German basis. We have heard much about establishing chemical industries in America to meet the present situation, which is all well and good. We certainly can do it. We have the money, we have the trained chemists, and ability to carry on the business in full, but it won't happen until conditions change very materially. Suppose we start a chemical plant for the production of organic bodies, as for instance benzoic and pyrogallic acids, hydroquinone, and all the limitless number of synthetics produced from "coal tar." It would involve the investment of a large sum of money running into the millions, to organize and equip a proper plant. Now, having done this thing, and demon-

strated that we can produce all these products, when the war is ended, what will happen?

The millions that have been expended in the building of the plant and organization, will count for naught against the renewed German competition. We all know that the lowest class of American workmen receive a wage two, three, four times beyond that of the foreign workman, whether he be German or of any other nationality, and it is foolish to ignore the fact that, in certain chemical industries, we cannot compete, until our government protects our chemical industries as does Germany and some other countries.

It is true that Germany has some natural advantages, as for instance, she has some deposits of mineral containing potash, which we do not possess or which, if we do possess, have not yet been exploited, but the real reason for her commanding position in the chemical industry is the government support which these industries receive.

We see in the public press, the chemical, pharmaceutical and other journals, arguments and statements with regard to our ability to take care of ourselves in the matter of chemical products, but we will not do it until our government protects this industry, as is done in foreign countries, and with consideration for the diverse standards of living between American and foreign workmen.

GEORGE B. KAUFFMAN.

THE NEW PHARMACEUTICAL SYLLABUS.

THE attention of the members is especially called to the criticisms of the Syllabus, which appear on P. 1495.

As this work is one intended to powerfully and definitely influence the course of Pharmaceutical education in this country and to provide uniform, definite and certain courses of education for its coming pharmacists, our readers are earnestly requested to transmit to the Journal any succinct and informing comment upon the Syllabus which they may think desirable to make, with the purpose of determining its true value in pharmaceutical education.

ELECTION OF OFFICERS.

Just as we go to press, the following announcement is made by the Board of Canvassers of the result of the election for officers of the Association,

President, Dr. William C. Alpers, of Cleveland, Ohio.

First Vice President, Charles H. LaWall, Ph. M., of Philadelphia, Pa.

Second Vice President, E. A. Ruddiman, M. D., of Nashville, Tenn.

Third Vice President, Linwood A. Brown, Phar. D., of Lexington, Ky.

Members of the Council, Caswell A. Mayo, Ph. G., of New York, F. M. Apple, P. D., of Philadelphia, Pa., Harry V. Arny, Ph. D., of New York, N. Y.

The Board of Canvassers comprised the following members:—Clyde M. Snow, Chairman, Irwin A. Becker, William Gray, Henry W. Colson, Mrs. M. M. Gray, all of Chicago, Ill.

The Journal extends to the newly-elected officers its sincere congratulations, and also those of every member of the Association.

JOSEPH PRICE REMINGTON,

CHAIRMAN OF THE COMMITTEE ON REVISION OF UNITED STATES PHARMACOPŒIA.

Born March 26, 1847, in Philadelphia, Professor Remington comes, on the distaff-side, from Townsend Speakman, one of the earliest Philadelphia apothecaries. For three generations his ancestors have been residents of that city and members of the Society of Friends.

He began his pharmaceutical life in the employ of Charles Ellis, Son & Co. of Philadelphia, on January 1, 1863. While in the employ of this firm he commenced the study of pharmaceutical science at the Philadelphia College of Pharmacy, graduating therefrom in 1866.

The first day of January, 1867, he entered the employ, and became a member of the family of Dr. E. R. Squibb, which connection he maintained for three years. Returning to Philadelphia he engaged with the firm of Powers & Weightman, with whom he remained for four years, leaving them to start in business for himself, at the corner of Thirteenth and Walnut Sts., at which place he remained for thirteen years.

In 1871, he became the assistant to Edward Parrish, Professor of Pharmacy at the Philadelphia College of Pharmacy, and on his death remained as assistant to his successor, Professor William Procter, Jr. On the death of the latter, in 1874, he was elected to succeed him as Professor of Pharmacy. In 1879 he was chosen as Director of the Pharmaceutical Laboratory and in 1893 he was made Dean of the College.

He became a member of the American Pharmaceutical Association in 1868 and has served the Association well and faithfully in many important positions. From the formation of the Council in 1880 he was its Chairman until the year 1886. In 1893-4 he was the Permanent Secretary, and in his important service upon many committees he has given to the Association most valuable and loyal service, which was recognized in 1892 by his elevation to the Presidency of the Association, at the meeting in the "White Hills" at the Profile House, New Hampshire. In 1893 he presided at the meeting of the Association at Chicago, on which occasion he also presided over the Seventh International Pharmaceutical Congress. In 1878 he was one of the organizers of the Pennsylvania Pharmaceutical Association, and in 1896 he was elected as its President.

Besides his numerous and valuable contributions of papers to pharmaceutical literature, he is the author of Remington's Practice of Pharmacy, and he has been an Associate Editor of the United States Dispensatory, since 1879. In 1897 he became the Pharmaceutical Editor of Lippincott's Medical Dictionary. He represented the United States at the Eighth International Pharmaceutical Congress at Brussels, Belgium, in 1896, was a delegate to the Pan-American Medical Congress in 1893, and again in 1896.

His connection with the Pharmacopœia began in 1877, with service upon the Auxiliary Committee of Revision appointed by the Philadelphia College of Pharmacy. The following year the College appointed him as a delegate to the National Convention on Revision of the Pharmacopœia and he was chosen as a member of the Revision Committee and First Vice Chairman of that body. In 1890 he was again a delegate to the National Convention, and, on the death of Mr. Charles Rice, the Chairman of the Convention, he was elected to the position of presiding officer. In May, 1910, he was unanimously elected Chairman of the Committee on Revision.

In 1874, Professor Remington and Elizabeth B. Collins were united in matrimony and three sons and two daughters are the fruit of that union.

Professor Remington maintains a delightful summer-home at Longport, N. J., where much of the work of the revision of the Pharmacopœia is done.

Section on Practical Pharmacy and Dispensing

Papers Presented at the Sixty-Second Annual Convention

ALL FOOL'S DAY AT THE DISPENSING COUNTER.

HENRY P. HYNSON, PHAR. D., BALTIMORE.

Looking backward, through the mist of four decades, at the dispensing counters of city drug stores, if one has had good digestion and has done his "duty in that state of life unto which it has pleased God to call him," he must have very happy realizations of great progress and helpful development. If he can see even small evidences of his own contributions to this progress and to this development, there is added satisfaction and added happiness. Knowing, so perfectly, all that you do not know that you might know, about dispensing and actually *feeling* the truth of Osler's sound philosophy, you still may enjoy the retrospect, and contemplate, with comfort and pleasure, the greater ease, the greater comfort and the still greater usefulness of the better-equipped counter and the better-equipped dispenser of this better day.

One hundred and two physicians' prescriptions, and about twenty, out of the hundreds of general orders, which required dispensing knowledge,—some of them of the highest kind—was not a great day, as days go in "big stores," but they offered excellent opportunity for the exercise of many of the possessed attainments and, very likely, for many more that were unpossessed.

Of course, there were very many uninteresting and very usual prescriptions and orders; the more so because they are so usual that every one has learned to do them, just as every one has learned to do usual things, no matter how difficult they may be or how stupid is "every one."

This "All Fool's Day" was not a remarkable day at the prescription counter; nor was it selected *after* its offerings were known, yet it presented almost every variety of dispensing. Strangely enough, there was not much, about which the "damned doctor"—might be criticised. One of them did prescribe a super-saturated solution of calcium lactate, which would have resulted in a solidified mass, had it been sent out as a solution. But it had been learned that when more than five per cent of this salt, compared with the water present, is prescribed in solution, no attempt should be made to dissolve the lactate. Under such circumstances, the fine, bolted powder should be simply *mixed* with the fluid, whatever it may be. The frequent mis-ordering of calcium lactate is not always the fault of the prescriber, since authorities differ as to its solubility,—the variations, no doubt, arising from the differences in the ages of the products with which the several experiments were made; the salt is most soluble when freshly prepared.

The uncertain solubility of calcium lactate; forgetting that strontium is an alkaline earth and forms insoluble carbonates and sulphates, and not knowing that sodium nitrite is very easily decomposed, especially in acid liquids, are the three items that seem to give modern prescribers more trouble than all else beside.

Naturally, there were a good many proprietaries prescribed. The best the pharmacist can get out of these is some profit—very good in comparison with the responsibility involved, the time required to dispense them and the splendid advertising that follows having them in stock, when called for by patrons or inquired about by physicians. There were also a number of copyrighted articles which, of course, are subject to the same requirements regarding dispensing knowledge as free chemicals. For instance, a dispenser should know and remember as much about aspirin as about salicylic acid. The chemical or scientific names of these copyrighted articles were used in a few prescriptions. There were but two instances of "specifications." This is most encouraging; it shows greater confidence in manufacturing and dispensing pharmacists. The specifications of forty years ago were a much greater burden on the dispensing pharmacist than are the proprietary and copyrighted articles of to-day. It is one brand of aspirin now; it was, at least, four makes of fluid extract of ergot and six makes of quinine-pills, then.—Cheer up, youngsters, cheer up!

There were but six prescriptions for ready-made pills, and all these were of strychnine. They were dispensed in screw-cap vials, the best and safest containers for strychnine-pills and the best for all gelatin-coated pills, excepting those containing odorous substances, like asafetida or the valerates, which should be dispensed in perforated boxes. The popular and most convenient gelatin capsule has certainly come to the modern dispenser's rescue. They have almost entirely replaced the ready-made coated pill in our city and are largely taking the place of tablets with *prescribing* physicians. A three-fold blessing, indeed, are capsules; they bless the physician, they bless the pharmacist and, most of all, they bless the helpless, long suffering victims of both,—the poor invalids. The dispenser of to-day must be careful that he does not, to the disadvantage of all concerned, use soluble-elastic or soft capsules, instead of the regular slip-on-kind, for liquids. The hard capsules appear to be safer and are much easier to dispense.

All the prescriptions for capsules were marked as having been filled "dry." Not bad practice, since moisture, as we know, especially when high temperatures prevail, has most to do with the deterioration of medicinal substances. With present high standards for powdered drugs, and the very efficient extracts dried *in vacuo*, there are very few instances when capsules may not be dispensed with the material in dry powder. The great advantages of this are many and obvious. An expert dispenser can generally use as small a capsule for the powder, as he could if it were massed. Odorous substances, like asafetida, the valerates, or iodoform and very difficult ones, like methylene blue, should, undoubtedly, be massed and introduced with a needle.

If "new clerks" and students with drug store experience, are "straws that show the way the wind blows," there is a great deal of bad pharmacy practiced in the mere dispensing of capsules. It must not be forgotten that gelatin capsules, as now made, are wonderfully transparent and plainly show imperfections in the

mixing of the ingredients and the irregular colors of the mass. These capsules must be full and full alike; if the powder or the mass does not fill the capsules, then make either large enough with inert material to fill them. But the capsules must never be too full, (it is always bad to be "too full"), they must not be so full that the caps may not be pushed *all-the-way* on, for this is the only test by which the capsules may be made uniform. The capsules should be as bright, as glossy, and as clean, after they are filled, as they were when sent out by the manufacturer. This requires some effort, some care, but it may be accomplished, and should be accomplished, even with sodium salicylate.

In a general treatment of the day's requirements, reference might be made to the folding of powder papers; to the keeping of the powder within the paper,—a difficult accomplishment with bulky, light substances. This may be done by making an *extra* complete, but *very narrow*, fold at the beginning of the folding. This will be found to be wonderfully helpful. In the distribution of small quantities of extracts through bulky powders, there comes up a question as to whether or not it is desirable to improve the final appearance of the mixture of powders by using the pilular extract, softened with alcohol or dilute alcohol, as the case may require. This treatment with extract of belladonna, brings about almost startling comparative results. Konseals, too, may be made to advertise a store, either advantageously or disadvantageously. So many dispensers use much larger cachets than necessary; easily seen by holding the konseal, edge up, tapping it and looking through it toward light. Failing to seal them effectively, as witnesseth the box containing them and the disgust of the patient, is equally hurtful to the dispenser's reputation.

The mixing of fluids of varying alcoholic strength, was an oft requirement of the day. By simply following an order of mixing that made the dilution of the stronger alcoholics as *gradual* as possible, many troubles were avoided. "The order of mixing" is really the "IT" in dispensing-pharmacy, as stock-keeping is the "IT" in commercial-pharmacy.

Solutions, making up a large proportion of our "April Fool Day" work, are always the most interesting class of prescriptions. They require the bringing to bear of all our knowledge of chemistry and of physics and, more lately, of bacteriology. Asepsis and sterilization must, now, be considered, and a fair comprehension of mass-reactions and the dissociations of elements, must be enjoyed to make the intelligent and successful dispensing of solutions possible. The dispensing of perfectly clear, reasonably sterile solutions for eye instillations, and the dispensing of ointments for the applications to eye-lids, were the most exacting features of the day's work. Yet, it was this work that had stimulated the greater confidence enjoyed. Incidentally, it may be asked, "Would it not be wise to have the Pharmacopœia standardize the strength of yellow mercurial ointment for eyes?" The present official ointment would not be what is generally wanted by oculists; about two to four per cent is usually desired by them, one or two grains to the dram.

Weighing and measuring, with the mathematics involved, are still problems that test the wits of the apothecary. He must have sufficiently accurate appliances. How, without these, could he get one eighty-fifth of a milligram of tuberculin, in

a cubic centimeter of normal salt solution containing one-half of one percent of phenol? This was one of the problems of our day and such, are of frequent occurrence in modern pharmacy. One third of a grain of strychnine sulphate to be dissolved in four fluid-ounces of compound tincture of cardamon; one-fourth of a grain of glyceryl nitrite and one-half a grain of strychnine sulphate in a three fluid-ounce mixture of tincture of strophanthus and wine; one fluid-ounce of glycerin containing five per cent of phenol, were not all of the more or less difficult problems that came to this store on this day.

Weighing and measuring and, consequent calculations, bring up the question of stock-solutions, dispensing tablets and percentage-solutions. One must be careful that he is not too conservative, too straight-laced or too hard to convince in these regards, but the actual dispenser *must know*, for he is finally responsible. If percentage by weight is wanted, and that seems to be the only way that "parts" may be compared in making definite volumes of percentage-solutions, much thought, figuring and, sometimes, valuable material, may be saved by using a method which may be illustrated by our order for "one fluid ounce of carbolized glycerin, five per cent." It is not necessary to know or to think about the specific gravity of glycerin; simply balance a bottle, fill it to the desired point and weigh the glycerin. Divide the weight of the glycerin by nineteen and the quotient will be the *exact* amount of phenol required; the plan can be used for oil-solutions or any fluid, distilled water included, if desired. The proposition may be stated in this manner:—If five per cent is to be one twentieth, then the vehicle—the glycerin in this instance—must be nineteen twentieths. If a ten per cent solution is required, divide the weight of the vehicle by nine; if a twenty per cent is wanted, divide by four.

The confusion of the Metric system with the Apothecaries' weight and the wine measure, continues, as witnesseth a prescription for dilute hydrocyanic acid 3.0, codeine sulphate 0.32, syrup of wild cherry and water sufficient to make 100.0, with a teaspoonful as the dose. The usual two per cent of metric prescriptions prevailed.

Ointments, as usual, required all the art of the apothecary and much of his science, as well. The introduction of pyrogallol into one of these, with its tendency to darken, causes much speculation as to what would be the color of the last portion used, and leads to the thought, that much real, helpful knowledge would follow the practice of putting up additional quantities of unusual prescriptions for observation. No doubt, many of our thought-to-be successes in dispensing, would disappoint us of we could see them after a few days. It is really remarkable how frequently salicylic acid is used in ointments, and nothing requires more care in its manipulation, considering the difficulty of entirely destroying the sharp crystals and its extreme sensitiveness to iron. Resorcinol is much used in ointments and its satisfactory introduction is only possible through the water-carrying properties of wool fat, a not yet fully appreciated pharmaceutical help. This should, certainly, be a constituent of all ointments containing appreciable quantities of resorcinol, iodine and rose water. It is strange that pharmacists should use the hydrous varieties when the anhydrous is much better for these "holding in" purposes. The failure to mix the required amount of oil

with lanoline, before it is dispensed, and the inherent differences and different tendencies of the yellow and white solid petroleum vehicles, are thoughts suggested by the ointments of one "All Fool's Day."

Not the least interesting in dispensing problems of the day, were those connected with a laboratory-order from a physician,—such orders as every ambitious pharmacist should be prepared to fill and to enjoy the profit and the good advertising that follows the successful filling. Besides many simple chemicals, it called for two volumetric solutions, two microscopic stains and three special re-agents, used in stomach analysis. The difficulty in securing correct formulas for these stains and re-agents is generally the most difficult part of their preparation and makes it appear that, if they are not of a kind desirable for the National Formulary, they might find place in the proposed Recipe Book, although, they are, in no way, out of date or un-ethical.

If what has been written for a review of one day's dispensing at one store, is interesting, then more than as much more could be written upon the identical review. It is not for want of material, by any means, but a want of faith in the greater forbearance of those before me and who have suffered, that brings the *finis*.

DISCUSSION.

Mr. Raubenheimer said Prof. Hynson had again demonstrated to the members that the every day practice in the drug store, brought things which are of interest to one and all. The most common incompatibility which they had to contend with was sweet spirits of nitre. It was an unstable preparation because no matter what one mixed it with, it will decompose. Another item was potassium iodide, particularly if there is any acid to decompose it.

He agreed with Prof. Hynson that the cleanliness of capsules is somewhat neglected in the average store. The physician prescribed capsules, in order that the patient might not taste the drug, be it quinine, valerate of zinc, ammonia or iron, and the druggist should use all precaution to have the capsules properly dispensed. According to his recollection, Prof. Lascoff had advocated the use of rubber gloves, but he thought that not to be a good practice. Mr. Raubenheimer believed that mercuric oxide ointment would be used 100 years from now because of its medicinal value. Dr. Hynson's statement was that the ointment was too strong. Mr. Raubenheimer said nobody ever thought of using a ten per cent mercuric ointment in the eyes, but that it did serve as a base to be diluted with petroleum or whatever the physician desired.

Speaking of anhydrous lanoline he reminded the members present that lanoline was originally a trade-mark name for hydrous lanoline, but was not any more. Lanoline meant hydrous wool fat and he made it himself. He never bought any hydrous wool fat. He asked why he should import water from Germany? (Laughter.)

Mr. Hynson said, in regard to oxide of mercury ointment, that it was a more serious matter than Mr. Raubenheimer would have them believe. It was his opinion that a man might have some experience, but that his judgment might not be quite matured, and he would get a prescription for ointment of oxide of mercury, to apply to the eye lids; that one might not remember that the exact strength of the official ointment. Such things did happen.

He said Mr. Raubenheimer did him an injustice as he did not say a word about lanoline; he had specifically mentioned wool fat. Whenever he got a prescription for lanoline he used the copyrighted article because he thought that was what the doctor wanted.

THE AMERICAN INSTITUTE OF PRESCRIPTIONISTS.

H. V. ARNY, PH.D.

Reform in American Pharmacy is the call of to-day. We hear of prospective legislation which will separate the real pharmacy from the bazaar drug store, even as in Germany we find the Apotheke separated from the "Drogen Handlung." A year or so ago much was said of the creation of certified pharmacists by joint committees of physicians and pharmacists, and the latest is the appointment by the New York State Pharmaceutical Association of a Committee of Eleven, to study the entire question from one end to the other.

The interesting subject has been given much thought by the writer ever since the idea of the certified pharmacist was first broached. This idea, while considered sympathetically, never seemed very feasible to one who knew how exceedingly difficult it is to get physicians and druggists in conference assembled, to agree on questions of policy. What physicians consider essential, scarcely fits the views of a majority of druggists, and what the druggists decide on, rarely agrees with medical views of the same subject.

The next thought was that the certified pharmacist should be decided by the medical men alone. The main idea of a certified pharmacist is a man fitted to cater to physicians' wants by accurately filling prescriptions and otherwise contributing to the progress of the healing art. The question therefore rose as to the possibility of establishing the idea of the certified pharmacist under the guise of "accredited agents" of the American Medical Association. This idea, however, was soon abandoned and no one realized more clearly than the writer that any plan of a medical protectorate over pharmacy will not meet with the approval of the majority of pharmacists, even those who specialize on prescriptions.

This led to a third plan, in which the certification of pharmacists is to be done by pharmacists only and this idea is here presented under the fanciful name of The American Institute of Prescriptionists.

Let us imagine the practicing prescriptionists of this association—not the manufacturers, not the professors, nor the frankly commercial retail druggist—forming an organization under the motto, "prescription compounding our foremost consideration," and let them formulate such requirements of membership as follows:

1. The candidate must be a graduate of a recognized college of pharmacy and must be a registered pharmacist in the state wherein he resides.

This will be agreed to with little opposition.

2. He must be the majority owner of a pharmacy and an actual compounder in same.

This is apt to cause a split at the beginning, since much available timber may be found among those who are employes in stores owned by others, but this proviso seems essential to head off the inclusion in the plan of corporation drug stores.

3. He must show that ——— percent of the business of his store is in prescriptions.

It will be noticed that the actual percentage is left blank and that the amount of prescription business is expressed as a ratio to the total business rather than as

a minimum fixed quantity. A man running a business of only ten prescriptions a day should be eligible, if his prescription receipts represent say, 30 to 50 percent of his total business; whereas a corporation store putting up fifty prescriptions a day should be ineligible if it were shown that the prescription receipts represent only 10 percent of the total sales.

4. He should show his interest in his prescription department by having it properly equipped with the necessary appliances and properly located in his store.

Any druggist sticking his prescription department on a hot and stuffy platform, midway between floor and ceiling, in order to use the space properly belonging to it for some rankly commercial purpose, shows by that act that he considers his prescription business of minor importance and by that act renders himself ineligible to membership in the Institute. Again, any druggist who is content to run his prescription department with broken graduates, and cracked mortars and with a scarcity of even these, shows he does not care for prescription business. As to suitable appliances, these are to be the subject of a paper at this meeting, so the only suggestion I offer is that the list should be based on the needs of a ten-prescription-a-day business and that of course a proportionally larger list must be formed in those stores where more than ten prescriptions are put up each day.

5. He must have the knowledge and the ability necessary to perform the tests of the pharmacopœia and routine analysis in clinical chemistry and must have in his store the necessary appliances to carry out such work.

A painter's supply store, some years since, used in its advertising literature the legend "a paint seller should know his paints as a druggist knows his drugs," which strikingly indicates the estimate set by the public upon the druggist's ability. The colleges of pharmacy have spent years teaching students how to detect adulterations in chemicals, how to assay drugs and how to determine the quality of powdered drugs by means of the microscope.

It is not, therefore, asking too much to expect the "member of the institute" to be sufficiently interested in the products sold under his name to be willing to examine these by means of official tests.

As to work in clinical chemistry—such as urinary analysis—this is the logical side-line for the prescription pharmacist, and it might be added that unless the pharmacist is ready to assist the physician in this direction, he can scarcely expect to interest the modern practitioner.

6. Membership is limited to a three-year term, and is renewable only when the member's qualifications remain unchanged.

In all callings is found the condition that certain representatives vested with the prerogatives of the occupation in question, find more profitable work and embarrass their original calling by using its prerogatives in their new field of endeavor. A man may honor himself and his country in the national legislative halls. Or he may be a great corporation lawyer and as such win great wealth and distinction. But when a man who has won a reputation in Congress spends his vacation looking after the interests of a corporation, such a combination of functions is—to say the least—in rather bad taste. So it is entirely possible to

imagine that a man selected as "member of the institute" may attract the attention of large commercial establishments who might consider the presence of this person on their staff as a distinct asset. This might be so, and even so it might be a distinct advantage for the person in question to accept the new position, but in this event his privileges as "member of the institute" should automatically terminate and that for the simple reason that membership in the organization is limited to practicing prescription pharmacists who own their own establishments and to such independent prescriptionists only.

Now that the six requirements for membership have been stated, an entirely proper question to ask is who shall enforce these requirements and how? This leads us to the question of organizing the Institute.

We are all aware of the propriety of the private club, which essentially consists of a self-organized group of men or of women of similar tastes and of similar ideals. A small number of these gather together and organize and then invite other desirables to join with them. This is exactly the method that should be used in organizing the American Institute of Prescriptionists.

Let some twenty to fifty prescription druggists, whom we recognize as leaders in retail pharmacy as a profession and those preferably consisting of representatives from every section of this country of ours, get together and organize, and let them, and them only, invite others possessing the qualifications stated above to join them, and thus start the Institute. It should of course be operated under a national charter and if possible the title, "Member of the Institute of Prescriptionists" (M. I. P.), should be legally protected from imitation. While the membership should be unlimited as to numbers, most rigid adherence to the conditions of membership should be observed. On first thought, it would seem that no one would want so trying a position as that of member of the committee on admissions, but the work of the American Conference of Pharmaceutical Faculties clearly shows that severe conditions, strictly adhered to, have the effect of keeping out undesirables and that with little bad feeling.

As to the short period of membership, it is plain that a one-year term is not possible without reorganization each year, hence it will be well to place duration of membership at three years, thus leaving two-thirds of the members at all times in active service.

And after all is said and done, what will be the use of the Institute to its members?

If properly conducted it will be the honor roll of retail pharmacy in America, and a druggist will be as proud to belong to it as a French scientist is to be invited to be long to the Académie Française.

To be a member of the Institute, to have the privilege of attaching to one's name the initials "M. I. P." will carry the prestige which unfortunately neither the registered pharmacist certificate nor any pharmacy college degree can possess.

The registered pharmacist certificate merely gives the right to run a drug business anyway—within the law—that its holder chooses. The college degree is of little value unless the college behind the degree is doing good work, and while a certain degree from a certain college may be a real distinction, the same degree from another college may be a joke. That both the registered pharmacist certificate and the college diploma are considered important, is shown by the fact that

provision is made that the "member of the Institute" shall be the possessor of both documents, but greater than these should be the title "M. I. P.," since it will show all, notably the prescription-writing physician, that here is a man to whom prescriptions are of the first importance, a man who by the vote of his fellows, is shown to be a real pharmacist.

Once launched, the Institute itself will be in a position to devise plans of co-operation that will be of financial advantage to each of its members, but that is a detail that cannot be discussed in this paper.

In conclusion, some one may say that the American Institute of Prescriptionists (A. I. P.) is an attempt to ape after the American Institute of Surgery, which in turn according to some of its critics, is an imitation of the Royal College of Surgeons. Of course, the primal thought of organization in the mind of the writer resembles to some extent the basic principles of the institute of surgery, but in detail the Institute of Prescriptionists no more resembles the surgeons' organization that it does the American Conference of Pharmaceutical Faculties or the association of certified public accountants, both of which are self-constituted private organizations frankly designed to sift the excellent from the inferior. And, if the American Institute of Prescriptionists can accomplish that purpose in retail pharmacy, it will more than justify its existence.

DISCUSSION.

MR. F. M. APPLE:—Mr. Chairman and Gentlemen:—I personally thank Dr. Arny for bringing this paper here, and I think that all of you ought to do likewise. He states in the latter part of his address, the Society of Certified Accountants in this way sifts the good from the bad and protects its Association by that means; and if such an effort should be applied to pharmacy it would be praiseworthy indeed.

We will first of all take up the question of desirability. There is no question but that it would be desirable to have an association of this kind under certain conditions, and those conditions would depend very largely upon the method by which it is organized and the restrictions placed upon the question of membership therein.

Now comes the question of the advisability of it. It would seem as though there could be no objections to this whatsoever; but on thinking over the question you will encounter this difficulty; men who would desire to be enrolled,—and I may be one of them; I don't say I would be one of the eligibles, because I don't know what the requirements are, but those who are rejected would allude to the eligible graduates as a lot of Pharisaical Pharmacists who confer upon themselves degrees, claiming they are better than anybody else, but who cannot substantiate their claims.

The durability of such an association will depend largely upon its effectiveness, that is, how practical it is in its application. That will naturally determine whether it shall be permanent or only a temporary effort. Again, there is a duty incumbent upon us that it shall not be organized in a "hit or miss" or thoughtless manner so that it may interfere with any effort that may be made later in a better way, so if it is not organized with great care it should not be organized, in deference to those who will come after us and who may possibly have better thought on the subject than we have.

As for the requirements, which seems to be "the milk in the cocoanut," as the saying is,—the essential part,—we will agree that any man who wants to be a member of such an Institute should naturally be a graduate of a reputable college of pharmacy, and also be a registered pharmacist in the state in which he practices. As for the second requirement, that he must be the majority owner of the store, that is a very difficult problem to settle. Take, for instance, our beloved Dr. Hynson, who is the father of this Section. I do not know what percentage of the Hynson-Westcott Company he owns, hence I do not know whether he would be eligible for membership in an Institute with such a provision. I have no defi-

nite recommendation to make there, for it is a very knotty problem, but I simply call your attention to that condition as an illustration of what you would encounter if you adopt that principle.

As to the percentage of the prescription business being a vital and essential requirement, I do not think that quantity should determine such a question. Quality should have precedence over everything else. If a man had all the other qualifications and he was unfortunate in being located so that he had to meet certain forms of competition that arose in his career; that he had to include in his business other lines of merchandise which departments he has conducted in harmony with his prescription business, should he be debarred? It depends altogether, to my mind, on the manner in which he conducts his store and how much of his time is devoted to a direct supervision of the prescription department, and not, as I said before, on the percentage of his prescription business as compared to his total volume of business.

As to the appliances, I certainly believe that any man should have appliances to carry out any process of manufacture or dispensing. It is not as vital, to my mind, that a man may have a few graduates with the lips knocked off as that he have mentality represented in first-class clerks, because a first-class clerk with a cracked graduate I would trust every time far more than I would a half-prepared one with a magnificent array or accurately determined prescription graduates. A person ought to have appliances enough to carry out the process properly, but I would add thereto as an essential requirement, reliable assistants. By that means you can control this question automatically. The semi-prepared men to whom I allude are those dangerous fellows, the qualified assistants, who, according to law, are permitted, "temporarily," to run the store; and the word "temporary" has been figured out to mean anything from a half hour to a couple of weeks. If a man wishes to go away on a vacation trip with the expressed intention of coming back he is only away "temporarily." It is based upon the principle that it takes time for a man to make a mistake and jeopardize the health of a community. It does not take but a few seconds of time to bring about a calamity at any time, as we well know.

As for the man being competent to test his drugs, that, I think, is answered automatically by the first requirement; if he is a graduate of a reputable college of pharmacy he should naturally have those attainments, because I think it would be a serious reflection on a college of pharmacy if its graduates could not carry out these processes.

As for the time-limit of membership, I think that three years is too long a period of time for membership, for this reason: that a man may be a good man to-day and for some unexplainable reason he may go wrong to-morrow and the Institute would have to suffer the detriment that would accrue to it from his continued membership, and you could not get rid of the man under the three years period. You do not want to make any limit of that kind. That wants to be so arranged that a man automatically drops himself from the Institute.

And that brings up the question of whether it shall be a membership or a license. I would recommend rather a license than a membership, on the basis, also, of a financial deposit on the part of the man, in order to guarantee his sincerity. I am led to recommend this by something I recently noticed in our local papers in Philadelphia. A golf club was being organized somewhat along this line; that when a man wished to leave the club or was expelled from the club, his money was returned to him. That is why the man could not bring legal action against them. They could get rid of him by saying, "Here is your money; get out." That is the same way, I think, here; the money could be returned, except such portions thereof as would have to be retained to meet current expenses that must be provided for first, and he must agree to that when he is accepted as a member. But I would not tie the hands of an Institute of this kind by a monetary consideration, that a man has any hold whatsoever by reason of any right you have given him, or by reason of any money he has invested therein. Make it so you can immediately get rid of any man that is obnoxious. Keep your escutcheon clear from all blots.

Mr. Mayo then stated that Prof. Arny had hit upon a medium which seemed to be full of promise, and was the first suggestion that seemed likely of solution of this very important problem, and one which had occurred time and time again in his state. At the state meeting

of the New York Pharmaceutical Association held in Saratoga Springs in June, a committee of ten was appointed to discuss this question of the separation of the sheep from the goats. He thought the proper solution of the question was one that required careful deliberation; that it was well worthy of a further study and moved that the proposal be referred to a sub-committee for consideration during the year, with instructions to report to this body. He again referred to the fact of the appointment of the committee in New York, and thought it quite likely that other committees had been appointed in other states.

Dr. Arny stated the idea of the paper was merely to present the subject that the members might think it over. He referred to the appointment of the committee in New York to look into this particular matter. In conclusion, he wished to say relative to Mr. Apple's criticism, that naturally the requirements of membership were purely tentative; that it was merely the thought he was trying to present, and therefore he would be most happy to go before the committee.

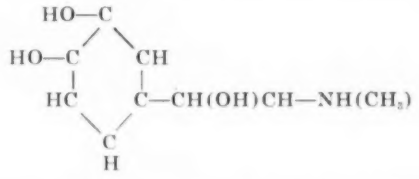
Dr. Apple, replying, said he wished Dr. Arny to understand that his remarks were not criticisms.

THE PHARMACY OF ADRENALIN.

C. P. BECKWITH.

Adrenalin has, to-day, a well-established place in the materia medica. In therapy, its field is large and expanding. Its chemistry and pharmacology have been studied elaborately. Of its pharmacy, however, comparatively little has been written. In dispensing this sensitive substance, there is much opportunity for error. I believe it a moderate estimate that of adrenalin-containing prescriptions met in actual practice, more than half are either ill-written or improperly compounded. In the present paper, it is proposed to discuss briefly the pharmacy of adrenalin, and, particularly, to suggest certain expedients and precautions favoring the conservation of its activity alone and in mixture.

The structural formula, when known, constitutes, perhaps, the most precise possible definition of a pure chemical compound. In the case of adrenalin, the formula has been established, beyond doubt, by both analysis and synthesis; for the sake of precision, therefore, let us define adrenalin as the lævo-rotatory isomer of the formula,



The dextro-rotatory isomer of the same formula, which has been found in the synthetic product only, is probably nearly or quite inert.

While this formula is before us, it is well to observe that the molecule contains groups that characterize it at once as an amine base, an alcohol and a phenol,—an observation that will help to a clearer understanding of its chemical behavior.

Adrenalin occurs naturally in the medulla of the suprarenal gland of warm-blooded animals, including man. Suprarenal glands of oxen, which are most readily obtainable in sufficient amount, supply the adrenalin of commerce. We

have no reason to doubt, however, that the natural substance is the same from whatever animal obtained.

Details of a process, identical in all essential points with that used on the manufacturing scale for the isolation of adrenalin from the gland tissue, may be found in an article by Dr. Takamine in the American Journal of Pharmacy, November, 1901.

Adrenalin of commerce, a nearly white micro-crystalline powder, is substantially pure, containing a very small fraction only of foreign matter. When properly stored, the pure crystals will remain unchanged for many years or perhaps indefinitely, but certain precautions should be observed as to the conditions of storage. Air, ammonia and certain other gases, moisture, strong light and heat, are in different degrees injurious. Under the combined action of air and moisture, adrenalin is decomposed rapidly. It is well, therefore, to store the product away from strong light and heat, in absolutely dry glass bottles or tubes, sealed air-tight. The drying of the container should be very thorough indeed, and, of course, the substance itself should be quite dry. A further precaution, superfluous however in ordinary practice, is to displace the air from the container with a dry inert gas. So protected and hermetically sealed, it is probable that adrenalin would prove absolutely permanent.

The pure substance is slightly soluble in cold water, and to a somewhat greater extent in hot water. Other ordinary simple solvents dissolve it very little, if at all, though aqueous solutions of certain salts have a marked solvent action. For instance, a strong aqueous solution of a borate, dissolves adrenalin abundantly, and borates prevent its precipitation by alkalies from solutions of its salts. Also, a strong aqueous solution of chemically neutral adrenalin chloride, will dissolve an appreciable amount of the adrenalin base.

In virtue of its phenol function, it forms water-soluble compounds with fixed caustic alkalies, but not with their carbonates nor with ammonia. Hence, from strong solutions of most of its salts, while the adrenalin base is partly precipitated by hydroxides or carbonates of strong alkalies, including ammonium, it is re-dissolved by excess of the fixed caustic alkalies only.

None of the solutions mentioned so far, is recommended for use in pharmacy, since in all, the adrenalin is oxidized rapidly on exposure to air.

In virtue of its amine function, adrenalin forms definite salts with the acids, usually very hygroscopic and difficult to preserve in dry form. They are in general very soluble in water and in alcohol, and these solutions may be made sufficiently stable for all ordinary uses. The salts are not very soluble in common simple solvents other than water and alcohol. For most pharmaceutical purposes, therefore, we are limited to the use of the salts of the base, in aqueous or alcoholic solution.

For instance, desiring to make an ointment containing adrenalin, the best practice is to prepare first, a concentrated aqueous solution of the chloride by dissolving adrenalin in the proper quantity of cold, moderately diluted hydrochloric acid, to incorporate the solution with sufficient lanolin, which as you know will take up much water, and to add, finally, whatever other ointment base may be prescribed. In case the prescribed fatty base, is miscible with sufficient alcohol,

it may infrequently be advisable to dissolve the adrenalin in the proper proportion of alcoholic, instead of aqueous, hydrochloric acid.

Very occasionally, ointments, suppositories, bougies, etc., containing adrenalin, are ordered, and the general method for ointments just outlined will suggest how they may be prepared.

Most commonly, however, aqueous solutions are prescribed; in fact commercial solution of adrenalin chloride, rather than the adrenalin base, is the usual starting point in prescription compounding. Some discussion is necessary, therefore, of the composition and properties of this preparation and of the precautions necessary to its conservation.

Commercial solution of adrenalin chloride contains one part per thousand of adrenalin chloride dissolved in physiologic salt solution with about one-half percent of chloretone. It is faintly acid in reaction, tastes of chloretone and salt, smells of chloretone, and, when fresh, is nearly colorless. Stored away from strong light and heat, with the seal unbroken, the solution will retain its activity for a long period. When, however, the stopper is removed and contact with air permitted, a new factor is to be considered. The oxygen of the air is destructive of adrenalin. Given good storage, the precaution most essential to the preservation of the commercial solution of adrenalin chloride, is to minimize contact with air. Only so much as is required for immediate use should be removed from the stock-bottle, which should be stoppered promptly and tightly. With ordinary care in handling, there is, within reasonable time, no necessity for serious loss through deterioration.

The oxidation that occurs upon undue exposure to air, is evidenced by change of color. The solution becomes pink, then red, then brown and a brown precipitate settles out. This fact is not without practical application since the color constitutes a rough, but fairly reliable index, of the potency of the solution. Experiments have been made to discover, if possible, some relation between the shade of color and the amount of deterioration. Solutions have been exposed freely to the air, the several changes of color observed, and physiological assays made from time to time. Of course, any quantitative statement based on personal estimate of a shade of color, is of necessity very crudely approximate. Bearing this in mind, however, and limiting the statement strictly to the undiluted commercial solution, we may say that so long as the color is not deeper in shade than what most persons would call pink, the loss of activity is practically negligible. When it becomes red, the loss of activity is quite measurable. It may amount to 10 or 20 percent of the whole. When brown, with the brown precipitate, the solution should be rejected, though even such solutions often retain considerable activity.

Aside from the physiological assay, which is too complicated for use in the pharmacy, I know of no entirely reliable assay method for adrenalin. Several colorimetric methods have been proposed, but there is none that I dare recommend as wholly accurate and trustworthy. The colors are often fleeting and vary in tint with the nature of the sample. Certain of the proposed reactions, also, are by no means specific for undecomposed adrenalin.

A rough qualitative test, to show the presence of active adrenalin in the commercial solution of adrenalin chloride of the composition already stated, is based on

its conduct with ferric chloride. As you are aware, ferric chloride gives striking and more or less characteristic color reactions with many of the phenols. Catechol, the parent phenol of adrenalin, gives, in dilute aqueous solution with a very little dilute ferric chloride solution, a brilliant green color, which, upon careful addition of very dilute alkali, passes through a series of color-changes from bluish-green to purple-red. Under like conditions, adrenalin acts similarly. The catechol nucleus is responsible for this reaction, so that it is not peculiar to adrenalin. If, however, dilute solutions of catechol and adrenalin chloride be treated with a little very dilute ferric chloride solution without subsequent addition of alkali, and if the two solutions be allowed to stand in the air for some minutes, a difference in their behavior will manifest itself. In the case of catechol, the green color persists; in that of adrenalin, it changes slowly to pink or red. While the test is not absolutely final, it is fair to conclude that a commercial solution of adrenalin chloride retains some activity when a sample, highly diluted, gives with a drop of very dilute ferric chloride solution a green color changing soon to pink or red. Many foreign substances interfere with the test, so that it may not be applicable to adrenalin in mixtures.

Having at hand a solution of adrenalin chloride known to be active, it remains to consider the precautions to be observed in dispensing it, alone and in mixture. Certain mixtures are chemically rational and therapeutically useful. If one is proposed, however, of whose feasibility there is doubt, let me counsel conservatism. Where possible, mixtures are best avoided; adrenalin is a sensitive substance, easily changed by many chemical reagents.

Chiefly to be feared, are alkalies and oxidizing agents. Almost any substance that, chemically, would be classed as an oxidizing agent, is more or less injurious to adrenalin. In this category are such substances as oxygen itself, free chlorine, bromine, iodine and their oxy-acids, permanganates, chromates, nitrites, salts of easily reducible metals, etc. Iron is extremely troublesome, because of its wide distribution and because a very minute amount will suffice to shorten measurably the life of an adrenalin solution. Traces of iron in other chemicals, in distilled water and even in glassware, are decidedly to be reckoned with. Of course, iron utensils should never be brought in contact with adrenalin.

Alkalies are no doubt destructive directly, but mainly they are pernicious, because they very greatly accelerate the destructive action of oxidizing agents. A faintly alkaline solution of adrenalin exposed to the air, will lose its activity very quickly. Such solutions are often prescribed, but ought not to be dispensed, unless confirmed by the physician after he has been informed of their instability. Every solution of adrenalin that is expected to retain its activity, should show a faint acid reaction. I am acquainted with no satisfactory expedient for preparing a stable adrenalin solution, that is not slightly acid. Organic acids and weak mineral acids are not very effective, unless present in considerable amount. A minute trace of a strong mineral acid, that is to say, a highly dissociated acid, is to be preferred.

In conformity with the last statement, the non-oxidizing acids, in reasonable dilution, are not injurious to adrenalin. Dilute sulphuric, sulphurous, hydrochloric, phosphoric, boric, salicylic, acetic, tartaric, citric,—in fact, most of the

acids commonly used in medicine,—are harmless. Oxidizing acids are of course objectionable.

Salts of the common alkaloids, of the alkali metals and, broadly, of the light metals generally, are not intrinsically harmful. If, however, their acid radicals are of weak,—that is to say, slightly dissociated,—acids, they may indirectly diminish the resistance of the adrenalin to oxidation by partial replacement of the trace of free strong acid normally present.

Phenols of the types of carbolic and cresylic acids are harmless. Ordinary camphors, terpenes, and similar bodies are not injurious, save in so far as they may be to a certain extent carriers of oxygen. Most aldehydes of high molecular weight, alcohols and ketones, are probably harmless. Formaldehyde, however, is directly destructive to adrenalin, and the two are wholly incompatible. As little as 1/10 of 1% of formaldehyde added to solution of adrenalin chloride will render it quite inert within a few hours.

In the foregoing statements of incompatibility, exhaustive accuracy is not pretended and doubtless there may be found exceptions. The purpose is merely to characterize certain broad types. An elaborate table of specific incompatibles, even were the data available, is beyond the scope of this paper.

To exemplify the use of these statements, and to emphasize some of the most important points, it will be well to examine and comment upon a few prescriptions. Some of these were submitted for criticism in the regular course of business; some are written arbitrarily to illustrate a particular case. All, however, are such as might be met with in the experience of any pharmacist.

1. ℞ Solution Adrenalin Chloride..... 1 fluidrachm

Let us begin at the beginning. This prescription requires only, that a fluidrachm be dispensed from stock, yet I venture to say that if filled carelessly, the solution will, in many instances, undergo deterioration far more rapidly than the same solution in the stock-bottle. Certain precautions are recommended that will apply not only to the present case, but to all prescriptions containing adrenalin. Either a glass-stoppered bottle should be used, or else the lower end of the cork should be covered with waxed tissue. The vial should be scrupulously clean and in particular it should be, as nearly as possible, free from alkali and iron in soluble form. It is advisable, therefore, to wash out all bottles with strong hydrochloric acid followed by much distilled water. This, however, is only a temporary expedient, and the best plan is to select an insoluble glass.

2. ℞ Sol. of Adrenalin Chloride..... 1 volume
Distilled water or physiologic salt solution..... 9 volumes

All the comments on the last prescription, apply equally to this. In addition, one should make sure that the distilled water or physiologic salt solution, is free from alkali and iron. It is a good plan, also, to use water or salt solution that has been freshly boiled and cooled. It has already been remarked that the commercial solution of adrenalin chloride is faintly acid,—a condition necessary to its stability. Here, this acidity is reduced, by dilution, to 1/10 its original proportion. In many ordinary bottles, there is sufficient soluble alkali to neutralize completely this trace of acid, and so to determine the rapid oxidation of the adrenalin. The life of this solution, therefore, would be greatly prolonged by the addition of chemically pure hydrochloric acid, in such proportion that the finished solution

contains about 1/100 of one percent of the absolute acid. Care should be taken that the acid itself is as nearly as possible free from iron, very appreciable amounts of which are present in many lots of, so-called, chemically pure hydrochloric acid.

Even when quite sterile at the outset, solutions like the one under consideration are liable to contamination in use. To prevent the development of fungus, a mild antiseptic may be added. Saturation with chloroform or chloretone would improve such solutions.

3. ℞ Adrenalin	¼	grain
Cocaine	5	grains
Sodium chloride, C. P.	4	"
Boric Acid	10	"
Chloretone	2½	"
Distilled water, sufficient to make	1	fluidounce

This solution would probably deteriorate fairly rapidly. There should be present some mineral acid stronger than boric. Very suitable would be hydrochloric acid, C. P. in quantity sufficient to saturate the adrenalin and cocaine, and leave an excess of about 1/100 of one percent of absolute acid in the finished solution. Also the boric acid should be free from iron,—an impurity very common in even the medicinally pure acid.

4. ℞ Sodium bicarbonate		
Sodium borate		
Sodium chloride, aa	2.5	grains
Thymol	1 80	grain
Sol. Adrenalin Chloride	1	fluidrachm
Distilled water, sufficient to make	1	fluidounce

Nose and throat specialists sometimes order spray-solutions similar to this. Usually they are designed to be slightly alkaline, so that the addition of acid, even if otherwise advisable, would defeat the intention of the prescriber. In the present case, it would be almost useless to add hydrochloric acid, unless in quantity equivalent to the whole of the sodium bicarbonate and sodium borate. This is of course inadmissible. The remedy is, with the consent of the prescriber, to put up the adrenalin solution separately, instructing the patient to add, in proper proportion, to each dose of the spray-solution immediately before use. If dispensed as it stands, it will become inactive in a very short time.

5. ℞ Zinc sulphate	0.05	gramme
Cocaine hydrochloride	0.2	"
Adrenalin solution	10	drops
Fennel water, B. P., sufficient to make	15.	grammes

This prescription, dispensed by an English pharmacist on the order of an oculist, underwent marked deterioration within a few days. In reply to inquiry as to the cause, certain possibilities were pointed out. First, it is to be noted that the ten drops of adrenalin solution were diluted to about 15 cc., thus reducing the acidity of the adrenalin solution to such an extent that the trace of alkali yielded by most common glass bottles would be fatal. Further, zinc sulphate very often contains iron. This salt and, indeed, each of the ingredients, as well as the bottle itself, should be tested for iron. It is highly probable that one or both of these causes was accountable for the deterioration. The remedy would be to use materials and container as nearly as possible free from iron and alkali, and to add, as

already recommended, hydrochloric acid, C. P., up to 1/100 of 1 percent of the finished solution.

6. ℞ Mercuric chloride..... ¼ grain
Sol. Adrenalin Chloride..... 2 fluidrachms
Water, sufficient to make..... 1 fluidounce

When this prescription was compounded by a pharmacist, there appeared,almost immediately, a slight grey precipitate, the solution becoming red. The precipitation was due, of course, to the reduction of the mercury, and the color, to the oxidation of the adrenalin. That the reaction occurred immediately, resulted, perhaps, from the use of slightly alkaline tap-water. Adrenalin chloride and mercuric chloride solution may be mixed, without immediate destructive reaction, if there is present a little free hydrochloric acid. Even with this precaution, however, the adrenalin is destroyed within a comparatively short time. This prescription should not be dispensed.

7. ℞ Cocaine hydrochloride..... 9 grains
Sol. Adrenalin..... 1½ fluidrachms
Iodine..... 4 grains
Cherry laurel water, B. P..... 2 drachms
Glycerin, q. s., to make..... 1 fluidounce

This prescription is copied from the Pharmaceutical Journal, Vol. 16, page 484, where it is condemned, because of the evident incompatibility between iodine and cocaine hydrochloride. It is further asserted, however, that the formula might be serviceable if the cocaine hydrochloride were omitted,—an obvious error since iodine is quickly destructive to adrenalin.

8. ℞ Adrenalin chloride..... 6 grains
Camphor..... 1 ounce
Phenol..... ½ ounce
Olive Oil..... 8 ounces

This formula is not practicable by reason of the comparative insolubility of adrenalin chloride in the mixture. A physician stated that a very similar prescription was being filled for him regularly. If so, it is probable that an examination of the product he was using would discover either the almost complete absence of adrenalin or the presence of ingredients not mentioned in the formula.

9. ℞ Solution Adrenalin chloride..... 1 fluidrachm
Sodium benzoate..... 1 grain

The trace of free hydrochloric acid of the adrenalin solution will be largely replaced by the less efficient benzoic acid. The solution will keep fairly well but will be less resistant to oxidation than the un-modified solution of adrenalin chloride.

To summarize in part,—the following considerations are of first importance in dispensing:

Deterioration of adrenalin solutions is usually due to oxidation, either by the oxygen of the air or by an added oxydizing agent.

Oxidation is retarded by acids, but accelerated by alkalies. Solutions alkaline in reaction, ought not to be dispensed.

In retarding oxidation, a trace of strong acid is, in general, more efficient than the equivalent amount of a weak acid. Solutions acidified with a trace of a weak acid, may be dispensed, but will not be very stable. Resistance to oxidation, other things being equal, seems to be a function of the number of hydrogen ions in a

unit volume of the solution. The acid should be used, therefore, not in proportion to the amount of adrenalin chloride present, but in proportion to the total volume of the finished solution. One one-hundredth of one percent of absolute hydrochloric acid, is a suitable proportion.

Prescriptions including oxidizing agents, should not be dispensed. Iron salts, in particular, are to be avoided. Containers, distilled water, and all materials entering into the prescription, should be as nearly as possible free from iron.

Glassware containing much soluble alkali should not be used.

Contact with air should be minimized.

WHAT PERCENT OF THE PRESCRIPTIONS DISPENSED IN YOUR STORE CAN YOU CONSCIENTIOUSLY DECLARE TO BE DISPENSED WITH FRESH DRUGS AND CHEMICALS?

CORNELIUS OSSEWARD.

The frequency with which we see druggists and very often pharmacists also, lay particular stress, in their advertisements, that nothing but absolutely fresh drugs and chemicals are used in dispensing, is my excuse in asking the above question.

Whenever I see such an advertisement or announcement, it reminds me of another too frequently in print, n. l.

"PRESCRIPTIONS OUR SPECIALTY."

Our intentions may be good; we may think that we are dispensing fresh drugs; we may tell the dear public that we are specialists in dispensing, but will it stand investigation?

I am convinced that, under the present conditions, it is often impossible for the pharmacist to make such a statement and speak honestly, and that the firm using the largest sign "PRESCRIPTION SPECIALIST," or "PRESCRIPTIONS OUR SPECIALTY," do not possess a Pharmacopœia or National Formulary, and that the common utensils required in dispensing are conspicuous by their absence.

As there has been a great deal of that kind of advertising, which, after a little investigation could not stand the test, it is certainly refreshing to note the tendency for more honest and true statements.

Should we as pharmacists not be very careful how we advertise, how we write our copy? *Be sure* that you can *deliver* that which you promise.

In order to prove to you that we as pharmacists cannot at all times supply fresh drugs because we do not know about them, let me ask you,—

Are you giving your prescription stock as much attention as it requires?

Are you buying the right kind of stock in the right quantity? And are you taking proper care of this stock while in your possession?

Again, how long have these drugs and chemicals been on the jobbers' shelves? And how much care has the jobber given to the proper storing of his goods?

Is it not true that the average pharmacist, with the exception of the larger stores, buys mostly through the jobber, and it is therefore proper to ask whether the jobber looks after his stock, and stores it properly?

Again, the shipping of certain drugs, and especially the biologics, when subjected to great variation of temperature and climatic conditions, may soon become worthless.

Does the average pharmacist give due consideration to these important questions? If not, how can he say that the drugs he uses are absolutely fresh?

Again, does the average pharmacist understand or appreciate the value of proper storing? Does he know which drugs require the most care and attention to keep them in good condition?

At this time, and in this connection, it may be well to call attention to the fact that our Pharmacopœia does not give positive directions as to how some of the important drugs should be cared for and stored.

We may take Digitalis Leaves for example,—the only precaution given under Digitalis, is that the leaves should be collected from plants of second year's growth at the commencement of flowering.

It says nothing at all as to how these leaves should be stored. It does not state that the stems are worthless, and should be removed. No limit is given as to how long they may be kept on hand, notwithstanding the fact that it is well known that Digitalis leaves readily deteriorate, if not properly taken care of.

It is of interest to note how careful other Pharmacopœias are in this respect, when we read in them, under Digitalis leaves, the following cautions,—

"When Digitalis leaves are to be used, all stems must first be removed." "Digitalis leaves must not be kept longer than one year." "Digitalis should be freshly powdered whenever called for." "Digitalis leaves must be preserved by the use of unslaked lime."

Here then are explicit directions, as to how to keep it, how long to keep it, that the stems must not be used, and that the powder must be freshly powdered each time when called for. Following such precautions there is very little chance for having poor Digitalis leaves on hand.

Is it any wonder that Infusion Digitalis is practically worthless in a great many cases, not because it has not been properly made, but because the leaves were without any medicinal value?

And then we wonder why the physician prescribes some trade name article. Is it not because he failed to get results with the U. S. P. Infusion?

In our experience we have never failed to satisfy our physicians with getting results from Infusion Digitalis, prepared from leaves from which the stems were removed, and the preparation carefully preserved.

An investigation of commercial Digitalis preparations made by Weis, of Vienna, agrees with our experience, when he states that at present the best form in which to prescribe Digitalis is a freshly-made Infusion of physiologically-tested leaves.

He further states that of seventeen proprietary preparations examined, only three or four were of the strength stated, while others had only one-tenth the strength claimed for them.

If the crude material deteriorates so rapidly if not kept carefully, what about the preparations made from these drugs?

I have visited pharmacies where Fluid Extract and Tincture of Digitalis were stocked in gallon bottles, partly empty, the bottles covered with a thick layer of

dust, the dust proving without doubt that these bottles had not been disturbed for some time, and it would be interesting to find the activity of these preparations under such conditions.

Would it not be greatly to the interest of the patient if such preparations could not be purchased in such large amounts?

Here is where the pharmacist who manufactures his own galenicals has the great advantage, and can minimize such deterioration, by manufacturing only enough for his immediate wants, and renewing his stock frequently with a fresh supply.

So much for the simple galenical preparations.

What about the mixtures, the compound preparations, the ready-made prescriptions prepared for future use, instead of preparing them when needed? Can you always claim that these ready-made preparations are freshly prepared? Is it not true that you know nothing at all about when they were made, how long they have been in stock, and what changes of temperature they have been subjected to?

Is it reasonable to expect that these ready-made prescriptions distributed all over the country, very many of them consisting of several ingredients, are less liable to deterioration than the simple galenicals?

Is it not true that we know little regarding the influence of light and heat, and less of the chemical action in these organic compounds, and that for this reason only they should be prepared extemporaneously?

Have you ever examined your prescription file? Do you know the percent of these ready-made prescriptions prescribed? And do you know the percent of galenicals represented on your file?

I have taken the trouble to go over our files, and to get a fair average have taken 1000 prescriptions dispensed during June, and another 1000 dispensed during January.

I have here an itemized list of the proprietary preparations called for in these 2000 prescriptions, also the different U. S. P. and National Formulary products represented in these 2000 prescriptions. To read this list would take too much of our time. I will, therefore, give you the result in a condensed form, showing the number of times each class of preparations was called for in these 2000 prescriptions:

Vinegars	2
Acids	114
Elixirs	134
Powd. Ext.	66
Sol. Ext.	6
Fl. Ex.	124
Glycerites	6
Infusions	22
Liniments	8
Mucilages	6
Mixtures	16
Plasters	4
Solutions	46
Spirits	40
Syrups	218
Ointments	66
Tinctures	248
Total	1126

TRADE-MARKED OR PROPRIETARY PREPARATIONS.

Liquids	470
Tablets	
Powders	
Suppositories	212
Total	682

DETAILED STATEMENT OF PREPARATIONS DISPENSED IN ABOVE LIST.

Vinegars	2
Acid, Boric	30
" Carbolic	26
" Benzoic	2
" Hydrochlor. dil.	16
" Phosphor. dil.	6
" Nitrohydrochlor. dil.	2
" Picric	4
" Salicylic	18
" Tannic	10
Total Acids	114

Elix. Calisaya	22
" " and Iron	2
" Buchu, Juniper and Pot. Acet	2
" Phosph. and Pot. Acet	2
" Iron Quin. Strych	58
" Heroin and Terpin Hyd	48
Total Elixirs	134
P. Ext. Cascara Sag	20
" " Nux Vom	16
" " Aloes	10
" " Ignatia	5
" " Belladon.	10
Total P. E	66
S. Ext. Belladon	6
Fl. Ext. Aloes	2
" Belladon.	4
" Black Haw	2
" Black Cohosh	2
" Cascara Sag	10
" Cascara Sag. Arom	50
" Cramp Bark	2
" Can. Indica	6
" Digitalis	4
" Ergot	10
" Hydrastis	6
" Leptandra	2
" Lobelia	2
" Hyoscy.	4
" Nux Vomica	6
" Phytolacca	2
" Podophyllum	2
" Passion Flos. (not official)	2
" Pichi (not official)	4
Total Fl. Ext	124
Glycerit. Tannin	6
Infusion Digitalis	22
Liniment Chloroform	4
" Stokes	4
Lotion Nigra	2
" Lead and Opium	20
Mucilage Acacia	6
Mixt. Licorice Co	16
Tinct. Aloes	4
" Aconite	10
" Bellad. fol	10
" Benzoin Co	14
" Canth.	6
" Capsic. and Myrrh	2
" Capsic.	6
" Cardamon. Co	6
" Digitalis	16
" Gentian Co	24
" Hyoscy.	12
" Gelsem.	2
" Iodi.	12
" Nux Vom	44
" Opium	20
" Opium Camphor	36
" Strophan.	4
Total Tinct	248

Syrups Ipecac	38
" Hydriodic Acid	4
" Citric Acid	2
" Ammon. Hypophos	2
" Orange	30
" Hypophos.	2
" " Co.	10
" Licorice	20
" Raspberry	8
" Senna Co	2
" Squill	16
" " Co.	16
" Sarsa. Co	16
" Tolu	24
" Trifol. Co	6
" Wild Cherry	22
Total Syr	218
Plaster Canth	4
Spirit Ammon. Arom	10
" Nitre	20
" Frumenti	10
Total Spirits	40
Solutions Iron Mangan. Pepton	8
" Alk. Antisep	6
" Iron Ammon. Acet	6
" Dobell's	8
" Arsenic Chlor	4
" Loeffler's (not official)	2
" Ammon. Acet	8
" Alumin. Acet	4
Total Sol	46
Ointment Acid Boric	12
" Aq. Rose	6
" Diach.	4
" Sulphur	6
" Wilkinson's	8
" Zinc Oxid	32
Total Ointments	66

TRADE-MARKED PRODUCTS AND READY-MADE PRESCRIPTIONS.

Angier's Emulsion.
Aletris Cordial
Alphozone.
Anisol Suppositories.
Alkalin Elixir, Merrell.
Bromidia.
Borolyptol.
Chiodrastis.
Calophen Tablets.
Capsolin.
Cu-Co-Ba Capsules.
Colchi-Sal Capsules.
Digitol.
Essence Caroid.
Gonosan Capsules.
Hydrastia Tonic.
Iodosyl Ointment.
Kepler's Malt.
Laxol.
Listerine.
Lysol.

Trommer's Malt.
Nephritis Tablets.
Pruno Codiene.
Syr. Hydr. Acid, G.
Sal Hepatica.
Toxinol.
Tolu Cherry Cordial.
Tyree's Powder.
Panzyme Tablets.
Palmo Dionin.
Panopeptone.
Pinoleum.
Palpebrin.
Sajodin.
Somnos.
Syrup Trifol. Co.
Salfene.
Tritipalm.
Tonoids.
Cascara Evac.
Waterbury's Cod Liver Oil Co.
Methylene Blue Co. Pills, Upj.
Pertussin.
Sanmetto.
Ung. Pinolium.
Hinkle's Pills, Warner.
Ambrozoin Tab.
Bronch. Capsules.
Wine Cod Liver Oil.
Cerose.
Wampole Cod Liver Oil.
Emuls. Cod Liver Oil, P. D. Co.
Dioxygen.
Diazyme.
Formamint Tablets.
Syrup Hypophos Co., Fel.
Hemaboloids Arsen.
Iodo Peptonoids.
Ingluvin.
Liq. Blaud's.
Mercury Vasogen.
Pepso Laxatone.
Papayan-Bell.
Regulin.
Ovoferrin.
Protonuclein.
Pepto Mangan.
Petrogen Liniment.
Solution Strontium Brom. Chap.
Tongaline.
Seltzer Aperient.
Carlsbad Salts.
Gastrogen Tablets.
Lactopeptin.
Neuronidia.
Uroform.
Pil Lapactic.
Elixir Peptenzyme.
Syr. Tolu Heroin Co., Warner.
Taka Diastase.
Vag. Suppos.
Benzoinol.
Phenolax.
Adrenalin Chlor. Sol.
Neurophosphates.
Bismuthol.
Kasagra.
Pil Hypophos. Co., Up.
Ess. Pepsin, Fairch.
Elix. Lactopep.

This then gives us two-thirds, or about sixty-seven percent, U. S. P. and N. F. products, and about one-third, or nearly 33 percent, ready-made preparations.

This is a fair average, and it would be interesting to compare this with several other prescription-files, in different parts of the U. S., to see if this average really does hold.

It shows, however, that in our locality at least, the pharmacist has control over two-thirds of the ingredients prescribed, and can assume responsibility, providing he does most of his own manufacturing, or buys in the proper quantity from reliable sources. But what about the other one-third? Can he take responsibility for that of which he knows nothing at all?

Can you conscientiously state that these goods are absolutely fresh, when you do not know how long they have been made?

Is there no remedy to overcome this unfair condition?

Should not the physician, and also the patient, know that the pharmacist is powerless, that he cannot assume responsibility for one-third of the products he is called upon to dispense under the present conditions?

The vigorous warfare which has been waged by the American Medical Association the last few years against various mixtures, has no doubt reduced the use of many of these ready-made mixtures. Has the pharmacist been as active, has he been conscientious at the prescription counter, has he done his full duty toward both the physician and the patient? Has he supported the splendid work carried on by the Medical Association?

If we, as pharmacists, are at all times careful in our buying, as to quality, and

also quantity; take proper care of our stock; manufacture our own galenicals in such quantity as needed, and dispense the prescriptions entrusted to our care faithfully, and honestly, I am sure that the use of these ready-made products will not be as popular in the future.

And it may be well to always remember that:—

The public will come to the pharmacist who can deliver *fresh goods.*
It is ready and eager to trust you if you will deliver *fresh goods.*
But don't take the prescription, and make out the bill,
Unless you are sure you'll be able to fill
That prescription, because it won't pay you until
You *deliver* Fresh Goods.

DISCUSSION.

Prof. Hynson said he was much interested in the subject of this paper and the point he wished to bring out was, that we must not condemn as ready-made, something that is really a definite chemical or a stable compound, even if it were proprietary. A great many of the compounds referred to are just like our elixirs, and there was no reason why they should be fresher than those.

Mr. Osseward replied that he had included some preparations that would keep for almost an indefinite time, and had only tabulated them for the main purposes of his paper.

Mr. Jones expressed himself as being very greatly interested in the subject as Mr. Osseward had treated it. He had had experience in the investigation of conditions of products in the average drug-store in many places. He had served as the Chairman of the Committee on Standards in his state (South Dakota), and had done work for its drug-department. He had called the attention of the Drug Commissioners to the fact that the condition throughout the state was not very favorable as to the freshness of drugs that were used in the compounding of medicines. The fault was not all with the retailer; he divided the responsibility with the jobbers, and, to some extent, with manufacturers. With the consent of the jobbers, an investigation had been made by the Drug Commissioners and it was found that a large percentage of the drugs, as they were sold to the retailer, were given little attention as to their freshness and purity. He thought that perhaps twenty-five percent of the drug trade in his state paid attention to the proper dispensing of drugs, and seventy-five percent paid very little attention to it. He thought this condition would hold good the country over. The condition to-day is much better throughout the country than three, four, or five years ago. He thought the druggists should pay special attention to the proper condition of their drugs and the proper storing of them, and that with the exercise of a little care a wonderful improvement could be made in their condition. He asked Mr. Osseward how long he would consider an Infusion of Digitalis fresh. Mr. Osseward replied that he was absolutely opposed to stock Infusion of Digitalis. It should be always freshly made.

Mr. Jones asked if the stems of the leaf should be removed from the standardized article before using? Mr. Osseward replied that in the standardized drug he had found but very few stems, and these he did not remove. Mr. Jones further inquired if Mr. Osseward would advocate the use of any other than standardized Digitalis. Mr. Osseward replied that he would not, especially for the infusion, for when the physician prescribed that preparation he looked for immediate results.

Mr. Hostmann inquired of Mr. Osseward as to his authority for his statements as to the deterioration of digitalis leaves. In his reply, Mr. Osseward said it was better to be on the safe side, and he would not use any digitalis that he knew to be over a year old. He had no definite authority for this, but he took this position from an excess of caution.

Mr. Hostmann said he had heard Prof. Hatcher, who had spent the best years of his life investigating the digitalis question, say that he had examined more than one sample of digitalis leaves that were quite old, some almost twenty years old, that had been carelessly kept in paper bags, and that these older drugs assayed better than samples that were only one

or two years old that had been properly cultivated, collected and stored. He practically stated that, as long as the digitalis leaves are all right when grown, they retain their strength for many years.

Prof. Hynson asked if Mr. Hostmann remembered what Dr. Hatcher had said about the permanency of preparations of digitalis? Mr. Hostmann replied that while it had been some time since the lecture he felt quite sure that the Professor stated that he had examined tinctures of digitalis more than ten years old, and that they showed no deterioration of strength,—that is they tested even better or at least as good when tested physiologically as those freshly prepared from selected leaves. The Professor's statement, with regard to the relative values of fluidextract and tincture had slipped his mind, but he was quite sure he had made the statement he quoted.

Mr. Hall agreed with Mr. Osseward as to the infusion of digitalis. If one would make a sample of the infusion and put it under observation, changes would be observed in it in twenty-four hours. It might retain its efficacy for a week or two, but it should be freshly prepared when prescribed. As to the deterioration of other preparations of the drug, he stated that some four to six years ago samples were collected for physiological testing by the University of Ann Arbor. He furnished for test a sample of fluidextract of digitalis which must have been nearly fifteen years old, and this sample showed the best results on test.

Mr. Becker stated that on the containers for Allen's digitalis leaves, was printed the statement of the results of their assay, and he asked how much regard should be paid to that statement.

Mr. Holzhauer said that this statement is made according to their own standard; that it would always or nearly always, come up to the regular standard or go above it. He did not believe that the trade should adopt everybody's standard as a standard for strength. He had seen samples of Allen's leaves that assayed almost twice their stated strength.

Prof. Hynson asked what system was in use by the members to indicate the age of a product. He would like to know how it was possible to tell whether one had fresh drugs in his store or not. Mr. Osseward said, the only way he could suggest was to buy the drugs direct. Mr. Hynson then inquired how, by looking at a container, one could tell the age of its contents? Mr. Osseward replied that there were a number of drugs for which there was not much call, and that he kept a fairly good index of his goods and at stated periods he went over those and in that way he got a very fair idea of how old his stock was. Another and a very important thing was to be careful of the amount of goods purchased. There were many things purchasable in quantity which had an attractive discount, yet he thought the rule to be followed in the purchase of certain goods, was not to purchase more than could be used in a certain number of months.

Dr. Wulling said, that while he could not answer Prof. Hynson's question directly yet he could advance this suggestion. At the University of Minnesota they had demonstrated that a qualified pharmacist can raise his own digitalis, that is the equal of Allen's or any other. Minnesota has a fair climate and any state that had a milder climate ought to be able to succeed better than Minnesota. They had been doing experimental work along this line for three or four years and much of the drug that they had raised had been converted into fluidextract and tincture, but they did not raise sufficient to supply all those who desired to experiment with it. They were cultivating it only for the purposes of education, but they had certainly determined that there was no difficulty in its cultivation, and those of the members who possessed a plot of land ten by fifteen feet in size can raise every year enough digitalis at least for one year. He advised, however, that tests should be made of the drug, both by the pharmacopœial assay and biologically. Possibly every one did not possess the facilities for the latter. Pharmacists in a city could cultivate a little plot of digitalis on the outskirts of the city, but he cautioned them that certain inexperienced botanists have exhibited a mild form of poisoning acquired by handling the drug. Another word of caution was this, that there are many who desire to cultivate medicinal plants who are not qualified by sufficient pharmaceutical training. It was not enough to possess agricultural knowledge but the one who cultivated digitalis should also be a pharmacist. They were advising persons not to attempt the cultivation of medicinal drugs unless they had some sort of pharmaceutical training.

Prof. Hynson said the point he wished to elucidate was that the time had arrived when druggists must have some way of knowing the date of the receipt of his drugs. Some months ago he had asked the receiving-clerks in both stores to date everything that they received. He did not have "August 24, 1914," put on the goods, but he had the stamps made this way, "8—24—4," in consecutive numbering and that told him the story. If anyone had a better suggestion than that he would like to have it explained. He referred to the statement of Mr. Osseward relative to fresh goods and invoices, and he said that his firm had taken an invoice several years ago and that invoice embraced 17,000 different articles. If there were some way to indicate when these articles were purchased it would be most desirable. A member stated that the system used by him was that of employing the first two figures to represent the month of purchase. If an article was purchased in January, he put a zero in front of the one, thus 01. If bought in August the mark on the goods would be "08." The month would be indicated by the first figures, then the next figures show the cost, and the next the day of purchase. Say that the figures are 081725, it will show that the goods were bought on the twenty-fifth of August and that they cost seventeen cents. Initials were added to show from whom the articles were purchased.

Mr. Apple said he had found it to be an advantage to combine the date with the cost-mark.

Chairman Nitardy explained the plan in use by his firm. In order to indicate the date on which any preparation was made, they used a numbering-stamp of which the first two numbers represented the year, and the last three numbers the day of the year;—thus, 14125 meant, the 125th day of the year 1914.

Mr. Osseward said that the main point sought to be brought out by his paper was that we must pay more attention to the storage of our goods.

Mr. Charles T. P. Fennell had occasion to buy some digitalis leaves in March of the present year and he wished to know the exact date of their importation. He ascertained that they were imported in July of 1913, while the jobber from whom he purchased them assured him that they came over in April, 1912. Consequently the stamp did not always accurately indicate the age of the drug. He then asked Dr. Wulling to give them more details as to the cultivation of digitalis in Minnesota.

Dr. Wulling said that they had investigated the matter from different points of view and had made many ash-determinations. The first year's crop met every requirement of the Pharmacopœia. Their results had been remarkable. He had been asked by a number of gentlemen for information regarding the cultivation of this drug and while he did not wish to thrust himself into the discussion, he would be willing to give brief information regarding their experiments if it was so desired.

Mr. Jones inquired if Dr. Wulling would advise the growing of digitalis by pharmacists. Dr. Wulling replied that he could only say, they had tried it in Minnesota with success. He, therefore, would deduce the probability of success elsewhere.

They did not plant the seed in the open. They began indoors in March, in order to have the plants of sufficient size to mature during the first year. In an adjoining room were a number of samples, fifteen or twenty, grown in their medicinal garden. All digitalis whether home-grown or otherwise, should be tested to see that it met the pharmacopœial requirements. A physiological test could be very easily made if one knew how to make it.

Mr. Meyer advised the labelling of infusion of digitalis with a "Shake" and "Keep in a growing the plant in Brooklyn, N. Y., and getting very good results from the first year's crop, sowing the seed out-of-doors. They recently had a demonstration in New York City that was rather interesting, made by two senior students of the College of Pharmacy. These students were sent to Dr. Hatcher for four lessons in pharmacological assaying. They described Dr. Hatcher's methods and they appeared to present no difficult problems.

Mr. Meyer advised the labelling of infusion of digitalis with a "Shake" and "Keep in a Cool Place" labels. He was gratified to learn from Mr. Osseward's paper that sixty-seven percent of the prescriptions described there were for official preparations. This he thought was very encouraging.

FILLING CAPSULES—A SUGGESTION.

FRANKLIN M. APPLE, PHAR. D.

Anyone who has been called upon to fill into capsules dry powders realizes the difficulty that one experiences when endeavoring to place large amounts of bulky medicines, such as Cinchonidia Salicylate, in a small-sized capsule, and this can readily be demonstrated by the trouble one encounters when ten grains of this chemical is directed to be dispensed in the smallest-sized capsule possible to contain it.

The commonplace method of filling capsules with medicines in a dry state consists of forcing the powder into the two ends of the empty capsule by repeated plunging of the halves of the capsule into the powder, and then trying to force the two portions together, which ofttimes results in the ends of the capsule being crushed in, due to the condition of the powder therein contained.

By proceeding as has been customary to fill the two ends of the capsule, and placing them together with gentle twisting thereof, so that the two ends overlap somewhat, we are ready to utilize the suggestion here offered as follows:—Place the capsule between the thumb and forefinger of one hand, the ends of the capsule being the portions of the same in contact with one's body, then proceed to rotate the capsule with the forefinger and thumb of the other hand, pressing upon the body of the capsule to as great an extent as is allowable, whilst rotating it, which results in the powder being forced into the remotest portions of the capsule's ends, displacing the air that had been confined therein by the previous method of forcing the powder into the confined space, thereby fortifying the film of gelatine that constitutes the ends of the finished capsule, so that greater pressure can be placed thereon from outside without danger of crushing in the end.

Assuredly, as the space occupied by the undesired air is now filled with powder, more of the latter can be placed therein, or the space occupied by the former amount of medicine will be less than it was before the capsule was subjected to the proposed treatment.

It is really surprising how much one can reduce the bulk of a powder when resorting to this method of filling capsules therewith in a dry state.

DISCUSSION.

Mr. Apple illustrated his method of filling capsules. In order to remove the objection to the capsule coming in contact with moist fingers, he suggested covering the fingers at points of contact with court-plaster.

The Chairman said that the paper demonstrated how many little points there were in the practice of Pharmacy that were helpful and of value to every one. It was seldom that these little things were thought of enough importance and value to be brought out in a paper.

Prof. Hynson asked Mr. Apple if the substances used were always powdered, before filling the capsules, and was informed that the writer always dispensed the powder in a fine state of sub-division. Another question by the same gentleman was, as to the amount of powder he placed in the capsule. Mr. Apple said that he filled the capsules with just as much powder as he could get into each end. Mr. Hynson queried whether, if the capsules are filled by the powder, so that the cap will not occupy the place it did on the empty capsules, if Mr. Apple would dispense them that way? Mr. Apple replied that he could always force the capsule together so that it was entirely closed. Mr. Hynson said that he had noticed that some dispensers would use, for instance, a No. 2 capsule, and after filling would dispense it of the same length as a No. 1. He wished to ascertain as to the general practice regarding this matter.

Contributed and Selected

UNITED STATES PHARMACOPŒIA.

NINTH REVISION.

ABSTRACT OF PROPOSED CHANGES WITH NEW STANDARDS AND DESCRIPTIONS.

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PART VI—FIRST PROOF.

A sixth installment of the Abstract of proposed new descriptions and standards, and of changes in descriptions and standards is herewith submitted.

This Abstract embraces a miscellaneous group of pharmacopœial articles and includes most of those which have not already been published in abstracted form.

Where no reference is made to rubrics, formulas, directions, tests, or assays, it is understood that the material facts remain the same as in the United States Pharmacopœia, Eighth Revision.

Comments should be sent to the Chairman of the Revision Committee, Joseph P. Remington, 1832 Pine street, Philadelphia.

Acidum Citricum.—Melting point omitted. Added tests: An aqueous solution of Citric Acid (1 in 10), which has been nearly neutralized with ammonia water, remains clear on the addition of calcium sulphate T. S. (oxalic acid). Heat about 5 Gm. of powdered Citric Acid for fifteen minutes on a water-bath with 5 Cc. of sulphuric acid in a porcelain dish, which has been previously rinsed with sulphuric acid, keeping the mixture protected from dust. No darker color than yellow develops (tartaric acid). Dissolve 10 Gm. of Citric Acid in 20 Cc. of distilled water, add 2 Cc. of sulphurous acid and boil the mixture until the odor of sulphur dioxide is barely perceptible. Cool the solution, mix it with 1 Cc. of a solution of sodium cyanide in distilled water (1 in 10) and follow this immediately with stronger ammonia water until the solution possesses a slight odor of ammonia. When cold, transfer the solution to a glass-stoppered cylinder of practically colorless glass, graduated at 50 Cc., dilute with sufficient distilled water to measure 50 Cc. and add 3 drops of a solution of sodium sulphide in distilled water (1 in 10). After mixing the solution well, the color produced, if any, when viewed downward against a white surface, is not greater than the color of a solution prepared as follows: To prepare the solution for the blank test, dissolve 3 Gm. of ammonium chloride (conforming to the tests for purity described in the Appendix), in 20 Cc. of distilled water, add 4 Cc. of a solution containing 0.080 Gm. of lead nitrate in 1000 Cc. of distilled water, and then 1 Cc. of diluted hydrochloric acid. Treat this solution with sulphurous acid, sodium cyanide and stronger ammonia water, then dilute and mix with sodium sulphide

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as described above. Before adding the sodium sulphide solution, the liquid must possess a distinct odor of ammonia. The two cylinders used must be matched and must be of practically colorless glass and have the same internal diameter (lead).

Acidum Hydriodicum Dilutum.—Rubric changed from "not less than 10 percent." to "not less than 9.5 percent. nor more than 10.5 percent." Added test: Mix 0.5 Cc. of Diluted Hydriodic Acid with 10 Cc. of distilled water, add 8 Cc. of silver nitrate T. S. and 6 Cc. of ammonium carbonate T. S., digest the mixture for 10 minutes on a bath of boiling water, cool, and filter. The filtrate, upon supersaturating with nitric acid, should not become more than slightly opalescent (chloride). Residue of 8.3 percent. on evaporation changed to 3 percent. on evaporation and ignition at low red heat.

Acidum Hydrobromicum Dilutum.—Rubric changed from "not less than 10 percent." to "not less than 9.5 percent. nor more than 10.5 percent." Residue on evaporation changed from "no appreciable residue from 10 Cc." to "not more than 0.0025 Gm. from 25 Cc." *Assay.*—Weigh accurately about 20 Cc. of Diluted Hydrobromic Acid, dilute it with 30 Cc. of distilled water, and titrate with normal potassium hydroxide V. S., using methyl-orange T. S. as indicator.

Acidum Hydrochloricum.—Rubric changed from "31.9 percent." to "not less than 31 percent. nor more than 33 percent."

Acidum Hydrochloricum Dilutum.—Rubric changed from "10 percent." to "not less than 9.5 percent. nor more than 10.5 percent."

Acidum Hypophosphorosum.—Rubric changed from "30 percent." to "not less than 30 percent. nor more than 32 percent."

Acidum Hypophosphorosum Dilutum.—Rubric changed from "10 percent." to not less than 9.5 percent. nor more than 10.5 percent." Added test: Neutralize a portion of the Acid with ammonia water, filter and render the filtrate alkaline with ammonia water; it shows no turbidity with calcium chloride T. S. Modified test: 6 Cc. of Diluted Hypophosphorous Acid with 3 Cc. of nitric acid, and 10 Cc. of distilled water, evaporated to dryness on a water bath, should not respond to the arsenic test.

Acidum Nitricum.—Rubric changed from "68 percent." to "not less than 67 percent. nor more than 69 percent."

Acidum Phosphoricum.—Rubric changed from "85 percent." to "not less than 85 percent. nor more than 88 percent."

Acidum Phosphoricum Dilutum.—Rubric changed from "10 percent." to "not less than 9.5 percent. nor more than 10.5 percent."

Acidum Sulphuricum.—Rubric changed from "not less than 92.5 percent." to "not less than 93 percent. nor more than 95 percent."

Acidum Sulphuricum Dilutum.—Rubric changed from "not less than 10 percent." to "not less than 9.5 percent. nor more than 10.5 percent."

Acidum Tartaricum.—Melting point omitted. Added test: Dissolve 10 Gm. of Tartaric Acid in 20 Cc. of distilled water, add 2 Cc. of sulphurous acid and boil the mixture until the odor of sulphur dioxide is barely perceptible. Cool the solution, mix it with 1 Cc. of a solution of sodium cyanide in distilled water

(1 in 10) and follow this immediately with stronger ammonia water until the precipitate formed is redissolved and the solution has a slight odor of ammonia. When cold, transfer the solution to a glass-stoppered cylinder of practically colorless glass, graduated at 50 Cc. Dilute it with sufficient distilled water to measure 50 Cc. and add 3 drops of a solution of sodium sulphide in distilled water (1 in 10). After mixing the solution well, the color produced, if any, when viewed downward against a white surface is not greater than the color of a solution prepared as follows: Dissolve 2 Gm. of ammonium chloride (conforming to the tests for purity described in the Appendix), in 20 Cc. of distilled water, add 4 Cc. of a solution containing 0.080 Gm. of lead nitrate in 1000 Cc. of distilled water, and then 1 Cc. of diluted hydrochloric acid. Treat this solution with sulphurous acid, sodium cyanide and stronger ammonia water, then dilute and mix with sodium sulphide as described above. Before adding the sodium sulphide solution, the liquid must possess a distinct odor of ammonia. The two cylinders used must be matched, must be of practically colorless glass, and have the same internal diameter (lead).

Adeps Benzoinatus.—10 Gm. of Siam Benzoin directed instead of "20 Gm. of Benzoin."

Aether.—Rubric changed from "about 96 percent." to "from 95.5 percent. to 97.5 percent., by weight of ethyl oxide." Added requirement: Ether for anesthesia is to be dispensed only in small, well closed containers and is not to be used as an anesthetic after the original container has been open twenty-four hours. Specific gravity: changed from "0.716 to 0.717" to "from 0.713 to 0.716" at 25° C. Boiling point changed from "about 35.5° C." to "about 35° C." Added description: It is slowly oxidized by the combined action of air, moisture and sunlight with the formation of peroxides, which produce explosive compounds. Modified tests: The moist residue left on the spontaneous evaporation of 25 Cc. of Ether from a shallow dish is odorless and neither reddens nor bleaches blue litmus paper. Dried at 100° C., this residue does not exceed 0.001 Gm. On shaking 10 Cc. of Ether occasionally during one hour with 1 Cc. of potassium hydroxide T. S. in a glass-stoppered tube, protected from light, no color is developed in either liquid (aldehyde). Added test: Shake 10 Cc. of Ether occasionally during one hour with 1 Cc. of a freshly made solution of cadmium potassium iodide (1 in 10) in a glass-stoppered cylinder, previously rinsed with the Ether under examination and protected from light; no color is developed in either liquid (peroxides). Test for undue amount of alcohol or water omitted.

Aqua Hamamelidis.—Process omitted. New description: A saturated aqueous distillate obtained by distilling hamamelis bark with steam or water and containing not less than 14 percent. by volume of absolute alcohol. Clear and colorless, or not more than faintly opalescent or slightly yellowish liquid having a characteristic aroma and taste. Added tests: Neutral or only faintly acid to litmus. Specific gravity: 0.979 to 0.982 at 25° C. Free from mucilaginous or fungus growths or an acetous odor. It gives no reaction with hydrogen sulphide T. S. or with ammonium sulphide T. S. (metallic impurities). Not more than 0.025 Gm. of residue remains on evaporating 100 Cc. to dryness on a water bath (limit of

dissolved impurities). Assay for alcohol content by general method in Appendix. Add 8 drops of an aqueous solution of resorcinol (1 in 200) to 5 Cc. of Hamamelis Water, and then carefully pour this upon 5 Cc. of sulphuric acid, contained in a test-tube, in such a manner that the two liquids do not mix. After standing 3 minutes a rose-red ring should not appear at the line of contact of the liquids nor should a distinct, white layer appear above this zone (formaldehyde). Ten Cc. of Hamamelis Water should give no reaction for methyl alcohol when treated according to the test given under alcohol for the detection of methyl alcohol.

Aspidosperma.—The dried bark of Aspidosperma Quebracho blancho, Schlechtendal (Fam. Apocynaceæ), without admixture of more than 2 percent. of wood and other foreign matter. In irregular chips or in longitudinal pieces attaining a length of 14 cm. and a thickness of 35 mm.; outer corky layer from 3 to 35 mm. in thickness, brownish-gray or reddish-brown and deeply furrowed, frequently somewhat reticulate with longitudinal and shallow transverse fissures, the crevices being occasionally lined with the mycelia of a grayish mould; outer surface of bark from which the cork has been separated, light reddish-brown and usually more or less roughened; inner surface occasionally with adhering wood, otherwise light yellowish-brown to light reddish-brown, longitudinally finely striate and finely porous; fracture short-fibrous with projecting bast fibers; nearly inodorous, taste bitter and slightly aromatic. Under the microscope transverse sections of Aspidosperma show a number of successive layers of cork separated by large groups of stone cells, isolated bast fibers and parenchyma; inner bark with starch-bearing medullary rays 1 to 5 cells in width, separating narrow wedges composed of large prominent groups of stone cells in which are occasionally included one or more thick walled bast fibers; bast fibers usually single, very thick walled, strongly lignified and surrounded with crystal fibers and starch-bearing parenchyma. Powder: Reddish-brown, bast fibers single, very long and surrounded by crystal fibers, the crystals being in prisms frequently terminated by pyramids and from 0.008 to 0.030 mm. in length; stone cells in large thick groups composed of numerous more or less tabular cells; cork cells more or less polygonal in outline with thick, slightly lignified walls; starch grains single or 2 to 4 compound, the individual grains spherical, ovoid or more or less planoconvex, from 0.003 to 0.025 mm. in diameter.

Calcii Glycerophosphas.—The normal calcium salt of glycerophosphoric acid containing not less than 90 percent. of anhydrous normal calcium glycerophosphate. A fine white powder, odorless and almost tasteless, somewhat hygroscopic. One Gm. dissolves in about 50 Cc. of water at 25° C.; soluble in less water at a lower temperature; the presence of citric acid increases its solubility; insoluble in alcohol. An aqueous solution shows an alkaline reaction to litmus and to phenolphthalein. A cold, saturated, aqueous solution yields white, iridescent scales of anhydrous Calcium Glycerophosphate when heated to boiling. When heated above 170° C. the salt is decomposed, evolving inflammable vapors and at a red heat is converted into calcium pyrophosphate. A saturated aqueous solution of the salt yields with ammonium oxalate T. S. a white precipitate, insoluble in acetic acid but soluble in hydrochloric acid. With lead acetate T. S. the

saturated solution yields a white precipitate which is soluble in nitric acid. Dissolve 1 Gm. of Calcium Glycerophosphate in 10 Cc. of diluted nitric acid and add an equal volume of cold ammonium molybdate T. S.; no precipitate should be formed within one hour (phosphates). On heating the mixture, however, a yellow precipitate will be formed. Ten Cc. of an aqueous solution of the salt (1 in 100) in water, acidified with a few drops of hydrochloric acid, does not respond to the test for heavy metals. Dissolve 0.1 Gm. of the salt in 10 Cc. of diluted nitric acid and add 1 Cc. of silver nitrate T. S.; a distinct opalescence may appear but no precipitate within one minute (chloride). Dissolve 0.1 Gm. of the salt in 10 Cc. of diluted hydrochloric acid and add 1 Cc. of barium chloride T. S.; no distinct turbidity appears within one minute (sulphate). Shake 1 Gm. of finely powdered Calcium Glycerophosphate with 25 Cc. of absolute alcohol, filter the mixture, evaporate the filtrate on a water bath and dry the residue for an hour at a temperature not exceeding 70° C. The resulting residue does not weigh more than 0.01 Gm. (limit of alcohol, soluble impurities, etc.). Weigh accurately from 0.5 to 1 Gm. of the finely powdered salt and dry it to constant weight at a temperature of 130° C.; the loss does not exceed 10 percent. (limit of water). Weigh accurately about 0.4 Gm. of the salt, previously dried to constant weight at 130° C., dissolve it in 20 Cc. of a 5 percent. solution of acetic acid and add 30 Cc. of distilled water. Heat the mixture to boiling and add an excess of ammonium oxalate T. S. Collect the resulting precipitate, wash, dry, and then ignite it until of constant weight. This residue of calcium oxide weighs not less than 23.47 percent. of the weight of Calcium Glycerophosphate taken. Weigh accurately about 1 Gm. of Calcium Glycerophosphate and ignite it to constant weight; the resulting residue of calcium pyrophosphate weighs not less than 54.4 percent. of the amount taken.

Ceratum.—White Petrolatum omitted; new formula: White Wax, 300 Gm., Benzoinated Lard, 700 Gm.

Ceratum Cantharidis.—Cantharides, in No. 60 powder, 350 Gm., Glacial Acetic Acid 25 Cc., Oil of Turpentine 150 Cc., Yellow Wax 175 Gm., Rosin 175 Gm., Benzoinated Lard 200 Gm. To make 1000 Gm. Macerate the Cantharides for 48 hours in a warm place, in a covered container, with the mixed Oil of Turpentine and Glacial Acetic Acid. Melt together the Rosin, Yellow Wax and Lard, add the macerated Cantharides and heat the mixture on a water-bath, with occasional stirring, until it weighs 1000 Gm. Finally stir until firm. Formerly 320 Gm. of Cantharides were macerated with 150 Gm. of Liquid Petrolatum for 48 hours under the same conditions, the mixture was then added to the melted Rosin, Wax and Lard and heated for one hour on a water-bath before cooling.

Collodium Flexile.—New formula: Collodion 950 Gm., Camphor 20 Gm., Castor Oil 30 Gm. To make 1000 Gm. Weigh the ingredients, successively, into a tared bottle and shake the mixture until the Camphor is dissolved.

Cresol. — Modified definition: A mixture of the isomeric cresols ($C_6H_4.CH_3OH$) obtained from coal tar. Specific gravity changed from "1.036 to 1.038" to "from 1.030 to 1.038" at 25° C. One Cc. of Cresol dissolves in about 50 Cc. of water, usually forming a cloudy solution; it is miscible with alcohol, ether, benzene, petroleum benzin, and glycerin; it is soluble in solutions

of the fixed alkali hydroxides. Added test: A saturated, aqueous solution of Cresol becomes blue-violet on the addition of ferric chloride T. S. and is neutral or shows a slightly acid reaction to litmus. Modified test: A solution of 1 Cc. of Cresol in 60 Cc. of water shows not more than slight turbidity (hydrocarbons).

Elixir Aromaticum.—No change.

Elixir Adjuvans.—Title changed to Elixir Glycyrrhizæ and the amount of Fluidextract of Glycyrrhiza changed from 120 Cc. to 125 Cc. per 1000 Cc.

Emplastrum Belladonnæ.—Process omitted. Rubric changed from "not less than 0.38 percent. nor more than 0.42 percent. of mydriatic alkaloids" to "30 percent. of extract of belladonna leaves and yielding not less than 0.35 percent. nor more than 0.40 percent. of mydriatic alkaloids." It may be made with a vehicle of rosin plaster or rubber adhesive plaster. *Modified Assay:* Remove the cloth from the face of the plaster and introduce 10 Gm. of the spread plaster cut into strips, into a flask, add 50 Cc. of chloroform, and shake it until the plaster is dissolved. Pour the chloroform solution into a 250 Cc. beaker and wash the cloth upon which the plaster was spread, and which is in the flask, with two portions of 25 Cc. each of chloroform, adding the washings to the chloroform solution in the beaker. Then wash this cloth with 80 Cc. of alcohol containing 1 Cc. of ammonia water and pour the washings into the chloroform solution in the beaker. Stir the mixture gently and allow it to stand until the rubber has separated into a compact mass. Dry the cloth upon which the plaster was spread, weigh it and subtract its weight from the original weight of the plaster. Pour the chloroform-alcohol solution into a 350 Cc. separator, rinse the beaker and rubber with 10 Cc. of alcohol and add the rinsing to the separator. Then add to the separator 100 Cc. of water, rotate the mixture until thoroughly mixed and allow it to stand until the liquids separate. Then draw off the chloroform into a second separator containing 50 Cc. of water, shake it thoroughly and after separation draw off the chloroform into a beaker and pour the aqueous solution into the first separator. Return the chloroform solution to the second separator and shake out the contents of the first separator with two portions of 10 and 5 Cc. each of chloroform, adding them to the chloroform in the second separator. Completely extract the alkaloids from the chloroform solution by shaking it out repeatedly with weak sulphuric acid. Collect the acid washings in a separator and add ammonia water until the solution is decidedly alkaline to litmus, and completely extract the alkaloids by shaking out repeatedly with chloroform. Filter the chloroform solution through a pledget of cotton, evaporate it to dryness and dissolve the alkaloids from the residue in exactly 5 Cc. of tenth-normal sulphuric acid V. S., and titrate the excess of acid with fiftieth-normal potassium hydroxide V. S., using cochineal T. S. as indicator. Each cubic centimeter of tenth-normal sulphuric acid V. S. consumed, corresponds to 28.92 milligrammes of mydriatic alkaloids.

Emplastrum Cantharidis. — Cantharides Cerate, Rosin Plaster spread on fabric, each, a sufficient quantity. Prepare Cantharides Plaster by spreading cantharides cerate upon rosin plaster, leaving a margin around the edges. Each square centimeter of spread plaster is to contain 0.1 Gm. of cantharides cerate.

It may also be spread on muslin, paper, or other suitable material. It should be made extemporaneously.

Emplastrum Capsici.—No change.

Emplastrum Plumbi.—Lead Oxide 1000 Gm., Olive Oil 1000 Gm., Lard 1000 Gm., Boiling Water, a sufficient quantity. Heat the Olive Oil and Lard in a bright copper or other suitable vessel of a capacity of not less than four times the bulk of the ingredients, sift the Lead Oxide through a No. 80 sieve upon the surface of the hot liquid and mix thoroughly. Then gradually add 350 Cc. of Boiling Water, and continue the boiling, constantly stirring with a wooden spatula, and adding sufficient boiling water, from time to time, to replace that lost by evaporation until the mass is homogeneous and a small portion removed and dipped into cold water is found to be pliable and tenacious. Then remove from the fire and wash several times with warm water to remove the glycerin. Finally knead the mass until it is free from water, roll it into cylindrical forms of suitable size, and wrap them in paraffined paper.

Emplastrum Resinæ.—Rosin, in fine powder, 140 Gm., Lead Plaster, 800 Gm., Yellow Wax 60 Gm. To make 1000 Gm. Melt the Lead Plaster and Yellow Wax together with a gentle heat, then add the Rosin and, when melted, mix thoroughly, strain, and allow it to cool, stirring until it stiffens.

Extractum Physostigmatis Pulveratum.—It yields not less than 1.7 percent. nor more than 2.3 percent. of the alkaloids of Physostigma. One gramme of the Powdered Extract to represent 13 Gm. of average strength Physostigma. Exhaust 1000 Gm. of Physostigma, in No. 60 powder, by percolation first using 1000 Cc. of alcohol, 3 volumes, and water, 1 volume, in which 5 Gm. of Tartaric Acid has been dissolved, and continuing with Alcohol, 3 volumes, water, 1 volume. Distil the alcohol from the percolate, at as low a temperature as possible, and evaporate at not more than 80° C. to 200 Cc. Wash this residue with two portions (250 Cc. and 200 Cc. respectively), of purified petroleum benzin, evaporate the washed residue to pilular consistence, at a temperature not exceeding 80° C., incorporate 20 Gm. of starch and dry in warm air. Dry, powder, assay, and add a sufficient quantity of Starch. Former process directed exhaustion with Alcohol, evaporation of percolate to dryness on water bath, assay and dilution with a sufficient quantity of powdered glycyrrhiza.

Extractum Viburni Prunifolii Pulveratum.—One gramme of the Powdered Extract to represent 5 Gm. of Viburnum Prunifolium. Exhaust 1000 Gm. of Viburnum Prunifolium in No. 30 powder, with Diluted Alcohol. Distil the alcohol from the percolate at as low a temperature as possible, evaporate, at not more than 80° C. to a soft extract, incorporate 5 Gm. of magnesium oxide and dry on glass plates in warm air. Powder and add sufficient starch to make 200 Gm.

Fluidextractum Aspidospermatis.—Use No. 30 powder, and prepare by Type Process B, using a mixture of 110 Cc. of Glycerin, 670 Cc. of Alcohol and 220 Cc. of Water as Menstruum I, and a mixture of two volumes of Alcohol and one volume of Water as Menstruum II.

Fluidextractum Cascaræ Sagradæ Aromaticum. — New formula: Cascara Sagrada 1000 Gm., Magnesium Oxide 125.0 Gm., Pure Extract of Glycyrrhiza 40.0 Gm., Glycerin 200.0 Cc., Alcohol 250.0 Cc., Benzosulphinide 1.0 Gm.,

Oil of Anise 2.5 Cc., Oil of Cassia 0.2 Cc., Oil of Coriander 0.1 Cc., Oil of Betula 0.2 Cc., Boiling Water, a sufficient quantity, to make 1000 Cc. Mix the Cascara Sagrada with the Magnesium Oxide, moisten with 2000 Cc., of Boiling Water, stirring occasionally during 2 hours, and percolate with Boiling Water until the drug is exhausted. Evaporate percolate to 500 Cc., and while warm, dissolve in it the Pure Extract of Glycyrrhiza. When cold, add the Glycerin, then the Alcohol containing the Benzosulphinide and the Oils and then add sufficient Water to make 1000 Cc.

Fluidextractum Scillæ.—Macerate 1000 Gm. of Squill, in No. 20 Powder, for 2 hours, with sufficient of a mixture of 2000 Cc. Alcohol, 1000 Cc. Water in a tightly-covered vessel. Then shake down evenly in a percolator, add more of the same menstruum and, when saturated, macerate 48 hours. Now percolate slowly, using same strength menstruum, to obtain 1000 Cc. of percolate. Again macerate drug in percolator for 12 hours, afterwards collecting a second 1000 Cc. of percolate. Again macerate for 12 hours and collect a third percolate of 3000 Cc. Distil the alcohol from the mixed percolates at as low a temperature as possible, and evaporate the liquid to 800 Cc. Slowly add to this residue when cold, with continuous agitation, 2000 Cc. of Alcohol and set aside, tightly closed for 12 hours. Decant supernatant liquid from syrupy layer, filter decanted liquid and wash syrupy residue with two portions, 300 Cc. each, of a mixture of alcohol 4 volumes, water 1 volume, passing the washings through the filter into the previously collected alcoholic liquid. Reduce the combined alcoholic liquids, by distillation, to 800 Cc. and add Diluted Alcohol to make 1000 Cc. Former process directed extraction with a mixture of Acetic Acid 275 parts and water 725 parts, and evaporation to 1000 Cc.

Gelatinum.—Modified description: An amorphous solid, in sheets, flakes, ground, powdered or shredded form, colorless or slightly yellowish, and having a slight characteristic odor and taste; unalterable in the air when dry, but decomposing when moist or in solution. Modified test: A hot solution of Gelatin in distilled water (1 in 40) should be free from putrid odor, and is not more than slightly acid to litmus; it appears not more than slightly opalescent in a stratum of 2 cm. and on cooling to 6° C. and standing for several hours it forms a firm, transparent or translucent jelly. Ash changed from 2 percent. to "not more than 3 percent." Added tests: A solution of the ash in 25 Cc. of distilled water, made with the aid of heat and a few drops of hydrochloric acid, does not respond to the Test for heavy metals. Heat 1.5 Gm. of Gelatin with 30 Cc. of hydrochloric acid (1 in 4) in a 150 Cc. Erlenmeyer flask on a water bath, and when the Gelatin has dissolved, add 3 Cc. of saturated bromine water and heat it on a water bath for 15 minutes, shaking the flask occasionally. Then add 0.5 Gm. of potassium iodide and follow it immediately with 0.5 Cc. of a 25 percent. solution of stannous chloride. Heat the solution for 5 minutes on a water bath, cool and subject it to the test for Arsenic. The stain produced, if any, is not greater than that produced in a test made with the same quantities of the reagents to which 2 Cc. of the standard arsenic solution has been added.

Glucosum.—The product obtained by the hydrolysis of starch, consisting chiefly of dextrose and dextrines. A colorless or slightly colored, thick, syrupy

liquid. Odorless or nearly so; it has a sweet taste. Very soluble in water, sparingly soluble in alcohol. An aqueous solution is neutral or slightly acid to litmus. Add a few drops of an aqueous solution (1 in 20) to 5 Cc. of hot alkaline cupric tartrate T. S.; a copious red precipitate of cuprous oxide will be produced (distinction from cane sugar). Weigh accurately about 0.5 Gm. of Glucose in a wide, glass-stoppered, tared weighing bottle, add 2 Cc. of distilled water, evaporate the water at about 70° C. and then dry it to constant weight at 90° C. The loss in weight of the Glucose does not exceed 21 percent. (water). Not more than 1 percent. of ash on incineration at a temperature not exceeding a low red heat. A solution of 5 Gm. of Glucose in 15 Cc. of distilled water, mixed with 5 drops of phenolphthalein T. S. requires not more than 0.6 Cc. of tenth-normal potassium hydroxide V. S. to produce a pink color (free acid). Dissolve about 2 Gm. of Glucose in 50 Cc. of distilled water, boil the solution for one minute and cool. The addition of one drop of tenth-normal iodine V. S. to this solution produces no blue color (starch). On now adding a few drops of starch T. S. to the solution, a blue color is produced (sulphur dioxide). Ten Cc. of an aqueous solution of Glucose (1 in 20) does not respond to the test for heavy metals. If the solution of Glucose is not colorless, comparison must be made with 10 Cc. of the same solution, to which a volume of distilled water, equal to that of the hydrogen sulphide, has been added. Dissolve 1.5 Gm. of Glucose in 5 Cc. of distilled water, add 5 Cc. of diluted sulphuric acid and 1 Cc. of bromine water and heat for 5 minutes on a water bath. Then add 0.5 Gm. of potassium iodide, follow it with 5 drops of stannous chloride T. S., cool and subject the solution to the test for Arsenic. The stain produced, if any, is not greater than that produced in a test made with the same quantities of the reagents to which 2 Cc. of the standard arsenic solution has been added.

Glyceritum Hydrastis.—No change in formula. *New Assay:* 100 Cc. yields not less than 1.12 Gm. nor more than 1.37 Gm. of the ether-soluble alkaloids of Hydrastis. Proceed as directed in the Assay of Fluidextract of Belladonna Root, modifying the process there given by using 5 Cc. of the Glycerite of Hydrastis instead of 10 Cc. of the Fluidextract of Belladonna Root. Use only ether as the immiscible solvent throughout the assay. Wash the final ether extractions with 10 Cc. of water, draw off the water and discard it. Then filter the ether solution through a pledget of purified cotton, wash the cotton with ether, evaporate the filtrate and washings and dry the residue at 100° C. to constant weight instead of titrating it. The weight will represent the amount of ether-soluble alkaloids in 5 Cc. of the Glycerite of Hydrastis.

Linimentum Saponis.—Modified directions: Add the Soap to 700 Cc. of Alcohol in which the Camphor and Oil are dissolved, then add water to make 1000 Cc., agitate the mixture until Soap dissolves and filter. 725 Cc. of alcohol was formerly used.

Magma Bismuthi.—Containing an amount of bismuth hydroxide equivalent to not less than 5.50 Gm. nor more than 6.00 Gm. of bismuth oxide in each 100 Cc. Bismuth Subnitrate 80 Gm., Nitric Acid 120 Cc., Ammonium Carbonate 10 Gm., Ammonia Water, Distilled Water, each, a sufficient quantity, to make 1000 Cc.

Mix the Bismuth Subnitrate with 60 Cc. of Distilled Water and 60 Cc. of Nitric Acid in a flask and agitate, warming gently until a solution is formed. Pour this solution with constant stirring, into 5000 Cc. of Distilled Water to which 60 Cc. of Nitric Acid has been added. Dilute 480 Cc. of Ammonia Water with 4000 Cc. of Distilled Water in a glazed or glass vessel of at least 12000 Cc. capacity. Dissolve the Ammonium Carbonate in this solution and then quickly pour the Bismuth solution into it with constant stirring. If the mixture is not distinctly alkaline, add a sufficient quantity of Ammonia Water to make it so and allow the mixture to stand until the precipitate has subsided, then pour or syphon off the supernatant liquid and wash the precipitate twice with Distilled Water, by decantation. Afterwards transfer the magma to a strainer of close texture, arranged in a percolator so as to provide continuous washing with Distilled Water, the outlet tube being elevated to prevent the surface of the magma from becoming dry, and allow the operation to proceed until the washings cease to react with phenolphthalein T. S. Then transfer the moist magma to a graduated vessel and add a sufficient quantity of Distilled Water to make the product measure 1000 Cc. and mix thoroughly. A thick, white, opaque liquid containing bismuth hydroxide in suspension in water. Neutral to litmus and phenolphthalein. One Cc. of hydrochloric acid added to 1 Cc. of Bismuth Magma produces a clear solution. Pour the clear solution into 10 volumes of distilled water; a white precipitate is produced. Evaporate 10 Cc. of Bismuth Magma to dryness and ignite the residue to constant weight; not less than 0.550 Gm. nor more than 0.60 Gm. of bismuth oxide results.

Massa Ferri Carbonatis.—Added Assay.—Weigh accurately about 1 Gm. of Mass of Ferrous Carbonate, dissolve it in 15 Cc. of diluted sulphuric acid and dilute the solution with distilled water to about 100 Cc. The immediate titration with tenth-normal potassium dichromate V. S., potassium ferricyanide T. S. being used as indicator, shows not less than 41.5 percent. of ferrous carbonate.

Massa Hydrargyri.—Added Assay.—Weigh accurately about 1 Gm. of Mass of Mercury, dissolve it in a mixture of 10 Cc. of distilled water and 5 Cc. of nitric acid and heat it on a water bath until red fumes cease to be evolved, and the liquid becomes pale yellow. Then add 150 Cc. of distilled water and 2 Cc. of ferric ammonium sulphate T. S. and titrate the solution with tenth-normal potassium sulphocyanate V. S. It shows not less than 32 percent. nor more than 34 percent. of mercury.

Nitrogenii Monoxidum.—A gas, Nitrous Oxide (N_2O). It is colorless, possesses a slight characteristic odor and a somewhat sweetish taste. It supports the combustion of many substances. For convenience in handling and use it is compressed in metal cylinders. It is quite soluble in water at low temperatures; at 25° C., 1 volume of water dissolves about 1.3 volumes of Nitrous Oxide. Pass 2000 Cc. of the gas, measured under normal atmospheric pressure at about 25° C. through 100 Cc. of barium hydroxide T. S. at a rate not exceeding 4000 Cc. per hour; not more than a slight turbidity is produced (carbon dioxide). No opalescence is produced in a mixture of 100 Cc. of distilled water and 1 Cc. of silver nitrate T. S. by 2000 Cc. of the gas under the conditions described above (halogens). No change in color is produced in 100 Cc. of distilled water to

which 5 drops of litmus T. S. have been added, by the passage of 1000 Cc. of the gas through the liquid under the conditions described above (acids or bases). No alteration in color is produced in a solution of 0.2 Cc. of tenth-normal potassium permanganate V. S. in 100 Cc. of distilled water by the passage of 1000 Cc. of the gas through the liquid under the conditions described above (reducing substances).

Oleatum Hydrargyri.—The 25 Cc. of Distilled Water is replaced by 20 Cc. of Alcohol in the new formula.

Oleoresina Petroselini.—Exhaust Parsley Seed, in No. 60 powder, with Ether. Distil most of the Ether from the percolate, using a water bath and evaporate the remainder spontaneously, stirring frequently. Allow the Oleoresin to stand without agitation for four or five days and decant the clear liquid portion from any solid residue.

Oleum Sesami.—A fixed oil expressed from the seeds of one or more cultivated varieties of Sesamum Indicum Linné (Fam. Pedaliaceæ). Preserve in well-closed containers. Sesame Oil is a pale yellow, oily liquid, almost odorless, and having a bland taste. Slightly soluble in alcohol, miscible with ether, chloroform, petroleum benzin and carbon disulphide. Specific gravity: 0.916 to 0.921 at 25° C. Shake 1 Cc. of the Oil for half a minute, with a solution of 0.1 Gm. of sugar in 10 Cc. of hydrochloric acid; the acid layer will become bright red and change to dark red on standing. Blue litmus paper previously moistened with alcohol is not more than slightly reddened by 2 Cc. of the Oil (free acid). Mix 5 Cc. of the Oil in a test-tube with 5 Cc. of a mixture of equal volumes of amyl alcohol and a 1 percent. solution of sulphur in carbon disulphide and immerse the test tube to one-third of its depth in boiling saturated aqueous salt solution. No reddish color develops in 15 minutes (cottonseed oil). Saponification value not less than 188 nor more than 193. Iodine value not less than 103 nor more than 112.

Oleum Terebinthinæ.—The volatile oil recently distilled from the concrete oleoresin obtained from Pinus Palustris Miller and from other species of Pinus (Fam. Pinaceæ) with water, below 100° C. Added: optical rotation variable. Solubility in alcohol changed from "3 volumes" to "5 volumes." "Very slight residue on evaporating 1 Cc." changed to "Not more than 0.05 Gm. of residue on evaporating 10 Cc. in a small dish on a water bath." Added tests: Distil 200 Cc. of the Oil at the rate of two drops per second, from a 300 Cc. globe flask, having the side tube 8 cm. above the bulb. Ninety percent. of the Oil distils between 154° and 170° C., the temperature being read with the mercury column of the thermometer immersed in the vapor. Five Cc. of the Oil added to an equal volume of hydrochloric acid in a test tube, shaken vigorously and allowed to stand for a few minutes, does not give a brownish or greenish color (resinous oils or their derivatives). Introduce 5 Cc. of Oil of Turpentine cautiously, drop by drop, into a small flask, of from 35 Cc. to 50 Cc. capacity, having a long graduated neck, and containing 25 Cc. of fuming sulphuric acid, and agitate the mixture cautiously but vigorously and frequently during five minutes, keeping the temperature just below 65° C. by immersion in cold water. Then cool, and add sulphuric acid until the bottle is filled to the upper graduation on the neck, when the clear, reddish viscous layer, which forms after the

dark mass has settled for 2 hours, should not exceed 1 percent. of the volume of Oil taken. A larger residue of colorless liquid, with a refractive index of less than 1.500 at 20° C. shows the presence of mineral oil. Caution: The addition of the Oil of Turpentine to the fuming sulphuric acid, drop by drop, is necessary because of the violence of the reaction.

Opium Deodoratum.—No change.

Opium Granulatum.—No change.

Pilulæ Ferri Carbonatis.—Added Assay: Dissolve three pills in 15 Cc. of diluted sulphuric acid and dilute the solution with distilled water to about 100 Cc. The immediate titration with tenth-normal potassium dichromate V. S., potassium ferricyanide T. S. being used as an indicator, shows not less than 0.065 Gm. of ferrous carbonate in each pill.

Pilulæ Ferri Iodidi.—Added Assay: Dissolve five pills in 15 Cc. of diluted sulphuric acid and dilute the solution with distilled water to about 100 Cc. The immediate titration with tenth-normal potassium dichromate V. S., potassium ferricyanide T. S. being used as indicator, shows not less than 0.04 Gm. of ferrous iron in each pill.

Potassii Chloras.—Modified Test: Ten Cc. of an aqueous solution of the salt (1 in 20) does not respond to the test for heavy metals. *Modified Assay:* Weigh accurately about 0.1 Gm. of Potassium Chlorate, transfer it to a 250 Cc. flask and dissolve it in 10 Cc. of distilled water. Then add 25 Cc. of acidulated ferrous sulphate T. S. to the solution, insert a valve stopper (see below) and boil the mixture for ten minutes. Now cool the mixture, add 10 Cc. of a 10 percent. manganous sulphate solution and titrate the excess of ferrous sulphate with tenth-normal potassium permanganate V. S. At the same time conduct a parallel experiment with another portion of 25 Cc. of acidulated ferrous sulphate T. S. to ascertain the total amount of ferrous sulphate in the solution used. Valve Stoppers.—Take a piece of rubber tubing of convenient diameter, and about 5 cm. in length and, having placed a piece of glass rod in one end and having slipped the other end over a glass tube which passes through a perforated stopper of a size convenient to fit the flask used, cut a longitudinal slit about 15 mm. long in one side of the rubber tube about half way up.

Resina.—Specific gravity changed from "1.070 to 1.080" to "from 1.07 to 1.09" at 25° C. Ash statement changed from "yielding no appreciable ash" to "ash not exceeding 0.05 percent." Added description: Its alcoholic solution shows an acid reaction.

Scopolaminæ Hydrobromidum.—Hyoscine Hydrobromide added as a synonym. Modified description: "The Hydrobromide of lævorotatory scopolamine, also known as hyoscine, obtained from various plants of the Solanaceæ. Colorless, transparent, rhombic crystals, sometimes of large size, odorless, slightly efflorescent. Its aqueous solution (1 in 20) is neutral or at most only slightly acid to litmus. "It melts at 151.8° C." changed to "when anhydrous it melts between 190° and 192° C." Reference to melting point of the chloraurates omitted. "Strongly lævogyrate" changed to "specific rotatory power of the salt, determined in an aqueous solution containing the equivalent of 5 Gm.

of anhydrous scopolamine hydrobromide in 100 Cc. of solution, at 25° C., is from 22° to 25.75° in a 100 mm. tube. Added tests: Two Cc. of chloroform shaken with 1 Cc. of an aqueous solution of the salt (1 in 20) to which a few drops of chlorine water have been added, will cause the chloroform to assume a brownish color. When dried to constant weight at 100° C. the loss in weight does not exceed 13 percent. It also loses its water of crystallization slowly over sulphuric acid. "No residue on incineration" changed to "On incinerating 0.1 Gm. no weighable ash remains." Added tests: A few drops of ammonia water T. S. added to 1 Cc. of an aqueous solution (1 in 20) causes no turbidity; the addition of potassium hydroxide T. S., only a whitish, transient turbidity (foreign alkaloids). Add 0.05 Cc. of tenth-normal potassium permanganate V. S. to 15 Cc. of an aqueous solution (1 in 100); the solution is not completely decolorized within 5 minutes (apoatropine). Modified test: The solution of about 0.1 Gm. of the salt in 1 Cc. of sulphuric acid, produces not more than faint yellow color (carbonizable impurities); a drop of nitric acid added to this solution, will produce an orange color, due to the liberation of bromine, but no deep-red color, fading to orange, should be noticeable (morphine). The platinic chloride test is omitted.

Sevum Præparatum.—Added tests: One Gm. of Prepared Suet dissolved in 50 Cc. of hot alcohol and a few drops of phenolphthalein T. S. added, does not require more than 0.6 Cc. of tenth-normal potassium hydroxide V. S. to produce a pink color (limit of free acid). Saponification value: not less than 193 nor more than 200. Iodine value: not less than 33 nor more than 48.

Sodii Glycerophosphas.—The sodium salt of glycerophosphoric acid containing not less than 66 percent. of anhydrous Sodium Glycerophosphate. It occurs either in the form of white, monoclinic plates or scales, as a white powder, or as a semi-solid mass having a saline taste; odorless. Very soluble in cold and hot water, nearly insoluble in alcohol. An aqueous solution (1 in 20) shows an alkaline reaction with litmus and a very slightly alkaline reaction with phenolphthalein T. S. Heated to about 60° C. the salt begins to lose water. When strongly heated it is decomposed, evolving inflammable vapors, and at a red heat is converted into sodium pyrophosphate. An aqueous solution (1 in 50), acidified with hydrochloric acid, does not respond to the test for heavy metals. Dissolve 1 Gm. of Sodium Glycerophosphate in 20 Cc. of diluted nitric acid and add an equal volume of cold ammonium molybdate T. S. No precipitate is formed within one hour (phosphates). On heating the mixture, a yellow precipitate will be formed. Triturate about 1 Gm. of Sodium Glycerophosphate, accurately weighed, with 25 Cc. of absolute alcohol, filter the mixture, evaporate the filtrate on a water-bath and dry the residue for one hour at a temperature not exceeding 70° C. The residue weighs not more than 1 percent. of the amount of salt taken (limit of alcohol-soluble impurities). Weigh accurately about 2.5 Gm. of the salt, dissolve it in 50 Cc. of distilled water and titrate with half-normal hydrochloric acid V. S., using 3 drops of methyl orange T. S. as indicator. It indicates not less than 66 percent. of anhydrous Sodium Glycerophosphate.

Syrupus.—No change.

Syrupus Acaciæ.—No change in formula. The syrup is to be heated at boil-

ing temperature for fifteen minutes, the volume restored with boiling water and the product preserved in sterilized bottles, closed with sterilized stoppers and capped.

Syrupus Acidi Citrici.—No change in formula. The syrup is directed to be made at short intervals and preserved in containers which have previously been washed with boiling water.

Syrupus Aurantii.—No change.

Syrupus Aurantii Florum.—No change.

Syrupus Calcii Lactophosphatis.—The Sugar has been reduced from 725 Gm. to 650 Gm. and 50 Cc. of Glycerin has been added.

Syrupus Hypophosphitum.—The Sugar has been reduced from 650 Gm. to 600 Gm., 50 Cc. of Glycerin added and the Tincture of Fresh Lemon Peel omitted. The alternative percolation method has been omitted.

Syrupus Ipecacuanhæ.—No change.

Syrupus Lactucarii.—No change.

Syrupus Picis Liquidæ.—The preliminary washing of the tar is omitted. An alternative percolation method is added.

Syrupus Pruni Virginianæ.—The Sugar has been increased from 700 Gm. to 800 Gm. and the Glycerin reduced from 150 Cc. to 50 Cc. The drug is moistened with water containing the Glycerin, allowed to macerate 24 hours before starting percolation and 500 Cc. of percolate then collected. The Sugar is dissolved in the latter by agitation and Water added to make 1000 Cc. Formerly the aqueous percolate dropped into the Glycerin in the receiving bottle and did not percolate through the drug.

Syrupus Rhei.—No change.

Syrupus Rhei Aromaticus.—No change.

Syrupus Sarsaparillæ Compositus.—The Oils are mixed with Alcohol to make 20 Cc., then alcoholic solution added to the fluidextracts and this mixture added gradually to enough Syrup to make 1000 Cc. Formerly 650 Gm. of Sugar was used and water to make 1000 Cc. No alcohol was added.

Syrupus Scillæ.—No change.

Syrupus Scillæ Compositus.—The Antimony and Potassium Tartrate is dissolved in 10 Cc. of hot water and this solution added to 750 Cc. of Syrup to which is then gradually added the mixed Fluidextracts, and finally enough Syrup to make 1000 Cc. Formerly the alcohol was evaporated from the mixed Fluidextracts, 300 Cc. of water added and the mixture filtered through talc, the filter being washed with Water to make 400 Cc. of total filtrate. The Antimony and Potassium Tartrate, dissolved in 25 Cc. of hot Water, was then added and 750 Gm. of Sugar dissolved in the liquid, water being added to make 1000 Cc.

Syrupus Senegæ.—No change.

Syrupus Sennæ.—No change.

Syrupus Tolutanus.—No change.

Syrupus Zingiberis.—No change.

Tinctura Cantharidis.—The drug is to be macerated with the Alcohol in a container fitted with a reflux condenser (upright glass tube) at a temperature

of from 50° to 55° C., during 24 hours, with frequent agitation. The mixture is then transferred to a percolator and 1000 Cc. of percolate obtained. Formerly the drug was percolated with Alcohol in the usual way after 6 hours maceration, no heat being used.

Terra Silicea Purificata.—(Purified Kieselguhr). A form of Silica consisting of the frustules and fragments of diatoms, purified by boiling with diluted hydrochloric acid, washing and calcining. It does not contain more than 10 percent. of hygroscopic moisture. Preserve it in tightly closed containers. Purified Siliceous Earth is a very bulky and very fine powder, white or of a pale light gray or pale buff color, without odor or taste. It readily absorbs moisture and will retain about four times its weight of water without the mixture becoming fluid. It is insoluble in water, acids or dilute alkaline solutions. Boil 10 Gm. of Purified Siliceous Earth with 50 Cc. of distilled water and filter the mixture; the filtrate is colorless and neutral to litmus. When ignited it does not darken nor lose more than 10 percent. of its weight (excessive moisture). The dried powder does not darken or lose appreciably in weight on ignition (organic impurities). Add 1 Gm. of Purified Siliceous Earth to 25 Cc. of hydrochloric acid; no effervescence should occur (carbonates) and after boiling and filtering, the filtrate is colorless, and separate portions, when tested, yield no precipitate with barium chloride T. S. (sulphates) and no blue color with potassium ferrocyanide T. S. (iron). Treat 1 Gm. of Purified Siliceous Earth with 20 Cc. of diluted hydrochloric acid and filter. Ten Cc. of the filtrate, when evaporated to dryness and the residue ignited, should not leave a residue weighing more than 0.005 Gm.

Tinctura Cinchonæ.—Menstruum II changed from Alcohol 65 parts and Water 25 parts to Alcohol 75 parts and Water 25 parts.

Tinctura Cinchonæ Composita.—Red Cinchona powder and Bitter Orange Peel powder changed from No. 60 to 40. Menstruum II changed from Alcohol 65 parts and Water 25 parts to Alcohol 75 parts and Water 25 parts.

Tinctura Digitalis.—Menstruum changed from diluted Alcohol to Alcohol 3 volumes and Water 1 volume.

Tinctura Iodi.—The 50 Gm. of Potassium Iodide is dissolved in 50 Cc. of distilled water in a bottle, 70 Gm. of Iodine is then dissolved in this solution by agitation and enough Alcohol added to make 1000 Cc. No water was used in the former process.

Tinctura Sanguinariæ.—Ten Cc. of Hydrochloric Acid replaces the 20 Cc. of Acetic Acid, otherwise the process remains the same.

Trioxymethylena.—It contains not less than 96 percent. of trioxymethylene or paraformaldehyde; $(HCOH)_3 = 90.05$, a polymeric form of formaldehyde. It occurs in white, friable masses, or as a powder, having a slight odor of formaldehyde. On heating it is partly converted into formaldehyde and partly sublimed unchanged. Slowly soluble in cold water, more readily soluble in hot water with the formation of formaldehyde, insoluble in alcohol or ether; soluble in fixed alkali solutions. A mixture of about 0.01 Gm. each of Trioxymethylene and morphine sulphate and 10 drops of sulphuric acid assumes a violet-red color, changing to blue. On incinerating 2 Gm. of Trioxymethylene, not more than 0.1

percent. of ash remains. Shake about 0.5 Gm. of Trioxymethylene, finely powdered, with 10 Cc. of distilled water; the latter should remain neutral to litmus. Assay: Weigh accurately about 1 Gm. of Trioxymethylene, finely powdered, mix it with 50 Cc. of normal potassium hydroxide V. S. in a 250 Cc. flask and add immediately, but slowly, through a small funnel, 50 Cc. of solution of hydrogen dioxide which has been previously rendered neutral to litmus with sodium hydroxide. When the reaction has ceased and the foam subsided, rinse the funnel and the sides of the flask with distilled water, allow the liquid to stand for half an hour and then determine the excess of alkali with normal sulphuric acid V. S., using litmus T. S. as indicator.

Trochisci Acidi Tannici.—No change.

Trochisci Ammonii Chloridi.—No change.

Trochisci Cubebæ.—No change.

Trochisci Potassii Chloratis.—No change.

Trochisci Sodii Bicarbonatis.—No change.

Unguentum.—Five percent. or more of the Benzoinated Lard may be replaced by White Wax in southern latitudes and during the heated season in other localities.

Unguentum Acidi Borici.—The Paraffin is reduced to 50 Gm. and the White Petrolatum correspondingly increased. 100 Gm. of Paraffin was formerly directed.

Unguentum Acidi Tannici.—No change.

Unguentum Aquæ Rosæ.—The clause is omitted directing the omission of the Sodium Borate when the ointment is used with metallic salts, otherwise no change.

Unguentum Belladonnæ.—The Hydrous Wool-Fat is increased from 20 Gm. to 30 Gm., 10 Gm. less of Benzoinated Lard being taken. No other change.

Unguentum Chrysarobini.—No change.

Unguentum Diachylon.—White Petrolatum replaces Olive Oil in the Ointment.

Unguentum Gallæ.—No change.

Unguentum Hydrargyri.—No change.

Unguentum Hydrargyri Ammoniati.—No change.

Unguentum Hydrargyri Dilutum.—The mercury has been reduced from 33.5 percent. to 30 percent.

Unguentum Hydrargyri Nitratis.—Modified process: Mercury 7.0 Gm., Nitric Acid 17.5 Gm., Lard, free from Water, 76.0 Gm. To make about 100 Gm. Warm the Lard in a capacious porcelain dish until it has just melted (about 45° C.); add 7 Gm. of the Nitric Acid all at once and continue the heat until the characteristic reaction is complete. Hold an inverted glass funnel over the dish to protect the operator from any Lard spurting from the dish during the reaction. Withdraw the heat immediately after the rapid rise of froth which accompanies the end reaction and cool the treated Lard, stirring it until it assumes a bright citrine color. Dissolve the Mercury in the remainder of the Nitric Acid, warming it if necessary, to prevent crystallizing and mix the solution with the previously prepared Lard. The quantity prepared has been changed from 1000 Gm. to 100 Gm. Formerly 70 Gm. of Nitric Acid was added to 760 Gm. of melted Lard at 105° C. and, when the reaction moderated, the heat was reapplied until effervescence

ceased. The mercuric nitrate solution was then stirred into the cooled, prepared Lard as above.

Unguentum Hydrargyri Oxidi Flavi.—No change.

Unguentum Iodi.—No change.

Unguentum Iodoformi.—Benzoinated Lard replaces the Lard; otherwise no change.

Unguentum Phenolis.—2.25 Gm. of Liquefied Phenol replaces 3 Gm. of Phenol and Ointment replaces White Petrolatum as the vehicle.

Unguentum Picis Liquidæ.—No change.

Unguentum Stramonii.—No change.

Unguentum Sulphuris.—Sublimed Sulphur replaces Washed Sulphur; otherwise no change.

Unguentum Zinci Oxidi.—No change.

ARSENIC TEST.

Standard Arsenic Test Solution.—Dissolve 0.1 Gm. of pure arsenic trioxide which has been finely pulverized, dried in a desiccator and accurately weighed, in about 5 Cc. of a 20 percent. solution of sodium hydroxide (free from arsenic). Neutralize the solution with diluted sulphuric acid, and then dilute it in a graduated flask to exactly 1000 Cc., using recently boiled distilled water at 25° C., to which 10 Cc. of diluted sulphuric acid has been added. Accurately measure 10 Cc. of this solution, transfer it to a 1000 Cc. flask and again dilute it to 1000 Cc. with recently boiled distilled water at 25° C., to which 10 Cc. of diluted sulphuric acid has been added. Employ this solution, containing 0.001 milligrammes of arsenic trioxide in each 1 Cc. in preparing the standard stain. This solution should be kept in a glass-stoppered bottle. It is advisable to prepare fresh solutions whenever new standard stains are to be prepared.

Preparation of the Chemical to be Tested.—Add 1 Cc. of a mixture of equal volumes of concentrated sulphuric acid, and distilled water to 5 Cc. of an aqueous solution of the chemical (1 in 25) or to a solution in 5 Cc. of distilled water of the residue remaining after special treatment. Acidulation as just directed is not necessary in the case of inorganic acids. Then add 10 Cc. of a saturated aqueous solution of sulphurous acid. Heat this liquid in a small beaker, on a water-bath, until it is free from sulphurous acid and has been reduced to about 2 Cc. in volume. Dilute this evaporated liquid to about 5 Cc. with distilled water.

Test-Apparatus.—Prepare several generators, equipped with tubes, etc., as described below. Select as a generator a bottle of about 50 Cc. capacity, having a mouth about 2.5 cm. in diameter and provide a well-fitting rubber stopper, suitably perforated. In one of the perforations in this stopper insert a thistle tube about 5 mm. in diameter and 15 cm. long, slightly bent where it emerges from the stopper and constricted at its lower extremity to an opening about 1 mm. in diameter, reaching within about 2 mm. of the bottom of the bottle. Insert through another perforation of the stopper a vertical exit tube about 13 cm. in total length and 1 cm. in diameter throughout the upper portion (about 10 cm.) and constricted at its lower extremity to a tube of about 3 cm. in length and about 5 mm. in diameter. This latter tube should extend but slightly below the stopper. In

the lower part of this exit-tube is to be inserted a small pledget of dry glass wool and then a strip of the freshly-prepared but dry lead acetate test paper rolled into a coil, and above this a plug of the moist (not wet) lead acetate glass wool. In the upper extremity of this tube insert through a perforated cork stopper, a glass tube 12 cm. in length, having an internal diameter of about 3 mm. In this is to be placed the mercuric bromide test paper, bending or creasing the upper portion of the strip so that it will retain its position. The strip should extend within about 2 cm. of the perforated cork stopper and must not be introduced into the tube until ready to start the test. This tube should be thoroughly cleaned and dried each time it is used.

Preparation of Standard Stain.—Introduce into the generator about 8 Gm. of the zinc followed by 25 Cc. of dilute sulphuric acid (1 in 4) and 5 drops of the acid stannous chloride T. S. Insert the stopper containing the thistle tube and the exit tubes into which have been placed the glass wool pledget, the dry lead acetate test paper, the moist lead acetate glass wool, and the mercuric bromide test paper as described under the Test Apparatus. Add at once through the thistle tube 2 Cc. (accurately measured) of the standard arsenic T. S. and wash this down into the apparatus with 5 Cc. of the dilute sulphuric acid (1 in 4). Should the evolution of the gas be violent at first, check the reaction by immersing the bottle in cold water. Should the reaction subside, increase it by placing the bottle in warm water. If the reaction be too violent, the stain will spread and not form a distinctive band, thus making the color intensity comparisons difficult. After the test has continued for forty-five minutes, remove the mercuric bromide test paper and place it in a clean, dry tube for comparison. This stain represents 0.002 milligrammes of arsenic trioxide in addition to any stain produced by the reagents. The stain from the reagents should scarcely be perceptible when determined by a blank experiment. For preservation the standard test strips are to be dipped into hot melted paraffin.

Testing the Chemical.—Introduce into another generator about 8 Gm. of the zinc, followed by 25 Cc. of the dilute sulphuric acid (1 to 4)and 5 drops of acid stannous chloride T. S. Insert the stopper containing the thistle tube and the exit tube charged with the test papers and glass wool, as just described. Then add at once through the thistle tube 5 Cc. of the solution to be tested, previously reduced as directed, under *Preparation of the Chemical*, and wash this down into the apparatus with 5 Cc. of the dilute sulphuric acid (1 in 4). When the evolution of hydrogen has proceeded actively for forty-five minutes, remove the mercuric bromide test paper and carefully compare it with the standard stain prepared as described above. The stain produced by the chemicals tested should not exceed in length or intensity of color that prepared as a standard, indicating not more than 1 part of arsenic in 100,000 parts of the substance tested.

Antimony, if present in the substance tested, will produce a gray stain. Sulphites, sulphides, thiosulphates, and other compounds which liberate hydrogen sulphide or sulphurous acid, when treated with sulphuric acid, must be oxidized by means of nitric acid and then reduced by means of sulphurous acid as directed under *Preparation of the Chemical*, before introducing into the apparatus. Sulphur compounds as well as hydrogen phosphide give a bright yellow band on

test-paper. If sulphur compounds are present, a simultaneous darkening of the lead acetate test paper and glass wool will occur. If such be the case, the operation as directed under *Preparation of the Chemical* must be repeated upon a fresh portion of the sample, using greater care in effecting the complete removal of the sulphurous acid. In testing hypophosphites special care should be observed to completely oxidize the sample as directed, otherwise a yellow stain, which might be confused with the orange yellow color produced by arsenic, may be produced through the evolution of hydrogen phosphide. Compounds containing antimony should be tested for arsenic by Bettendorf's Test. The test apparatus should be thoroughly cleaned and dried immediately after use.

REAGENTS.

Arsenic Trioxide, Pure (Arsenous Oxide).—As_2O_3. Arsenic trioxide for use in the Arsenic Test should comply with the description and tests given under Arseni Trioxidum, and also the following additional tests: One Gm. of the trioxide, when heated in a porcelain crucible under a hood until vapors are no longer evolved, should yield not more than 0.2 mgm. residue (non-volatile matter). Reduce the arsenic trioxide to a fine powder and thoroughly dry it in a desiccator; it should show 100 percent. of arsenic trioxide when assayed as directed under Arseni Trioxidum.

Filter Paper, Quantitative.—For use in the Arsenic Test use Schleicher and Schull's No. 589 (Blue Ribbon) or Swedish O, filter paper, or other make of like surface or quality, for the Mercuric Bromide Test Paper.

Glass Wool.—(Spun Glass.)—Fine threads of spun glass. Two Gm. of glass wool when digested on a bath of boiling water for one-half hour with 100 Cc. of diluted hydrochloric acid, the mixture filtered and the filtrate evaporated to dryness and then dried at 110° C., should leave not more than 0.01 Gm. of residue (soluble matter). Boil 1 Gm. of glass wool for a few minutes with a mixture of 25 Cc. each of diluted nitric acid and distilled water; filter, evaporate the filtrate to dryness and treat the residue with 10 Cc. of distilled water and again filter it; the filtrate should not be affected by the addition of hydrogen sulphide T. S. (lead).

Lead Acetate (Glass Wool).—Immerse Glass Wool in a mixture of equal parts of lead acetate T. S. and distilled water and remove the excess of liquid by pressing it between filter-paper. The glass wool should be prepared as just described immediately before it is required in the test.

Lead Acetate Test-Paper.—Immerse strips of heavy white filter-paper 5 cm. wide and 8 cm. long in a mixture of equal parts of lead acetate T. S. and distilled water, drain off the excess of liquid and dry the strips on glass in an oven at 100° C.

Lead Acetate Test Solution.—Dissolve 10 Gm. of clear, transparent crystals of lead acetate, $Pb(C_2H_3O_2)_2+3H_2O$ (Plumbi Acetas, U. S. P.) free from adhering lead carbonate, in sufficient water to measure 100 Cc. Preserve the solution in well-stoppered bottles.

Mercuric Bromide.—$HgBr_2$. It occurs in white rhombic needles or prisms or

lustrous scales or as a granular, crystalline powder fusing at about 325° C. and subliming without decomposition. Soluble in 200 parts of water at 25° C. and 5 parts of boiling water; readily soluble in boiling alcohol.

Mercuric Bromide Test Paper.—Cut stiff, heavy quantitative filter-paper into strips 3 cm. in width and 12 cm. in length. Immerse these strips for five minutes in alcoholic mercuric bromide T. S. Remove the excess of solution by pressing the strips between filter-paper and then dry them quickly on glass in an oven heated to 100° C. Place the strips at once in a wide-mouthed bottle and stopper it securely.

Mercuric Bromide Test Solution, Alcoholic.—Dissolve 5 Gm. of Mercuric Bromide in 100 Cc. of alcohol, employing a gentle heat to facilitate solution. Keep it in glass-stoppered bottles protected from the light.

Stannous Chloride, $SnCl_2 + 2H_2O$. Colorless crystals readily soluble in water and alcohol. When in contact with air or excess of water, the salt readily forms a basic chloride, hence when dissolved, its solutions should be acidulated with hydrochloric acid. The presence of arsenic above the U. S. P. limits should be determined. Boil two grammes of the salt with 10 Cc. of hydrochloric acid for several minutes; the solution should remain clear and colorless for one hour. When tested for arsenic as directed under the blank test for arsenic, 0.3 Gm. of stannous chloride should not produce a stain. *Alternative process:* Heat tin with concentrated hydrochloric acid, taking care that the metal is in excess. When the acid has become saturated, pour off the clear fluid from the undissolved excess of tin, filter it through asbestos and set it aside until crystallization takes place. Break up the crystals, drain, and dissolve them at once as directed under the Test Solutions or in Bettendorf's Arsenic Test. When thus prepared, stannous chloride must respond to the tests for arsenic given above. 0.3 Gm. of stannous chloride should not produce a stain. When freshly prepared the salt should be completely soluble in one part of alcohol (foreign salts).

Stannous Chloride Test Solution, Acid.—Dissolve 40 Gm. of stannous chloride crystals in 60 Cc. of concentrated hydrochloric acid and preserve it in a glass-stoppered bottle.

Sulphuric Acid, Concentrated for Tests, H_2SO_4. When concentrated sulphuric acid is especially directed in a test, it is intended that the strongest pure acid of a specific gravity of not less than 1.834 at 25° C. be employed. In addition to the tests prescribed for this acid in the text of the Pharmacopœia, it is required to conform to the following more rigorous tests before it can be employed as a reagent. Dilute 1 part of the acid with 4 parts of distilled water; the stain from 25 Cc. of this dilute acid should scarcely be perceptible when subjected to the Arsenic Test. Pour 1 Cc. of diphenylamine T. S. carefully so as to form a separate layer upon 5 Cc. of the concentrated sulphuric acid contained in a test-tube; no distinct blue color should appear at the zone of contact (nitric acid). Upon carefully pouring about 2 Cc. of hydrochloric acid, in which a particle of sodium

sulphite has been dissolved, over about 2 Cc. of the concentrated sulphuric acid, no reddish zone should appear and no precipitate should form (selenium).

Tin, Sn.—Pure metallic tin in the granulated or mossy condition. Digest 5 Gm. of tin with 40 Cc. or a sufficient quantity of nitric acid (Acidum Nitricum, U. S. P.), on a bath of boiling water until entirely converted into a white powder, then evaporate it completely to dryness. Stir the residue with 25 Cc. of diluted nitric acid and 25 Cc. of distilled water and filter it. To the filtrate add 1 Cc. of diluted sulphuric acid (Acidum Sulphuricum Dilutum, U. S. P.), evaporate it as far as possible upon a water-bath, and to this add 10 Cc. of distilled water; no weighable residue should remain undissolved (lead). When converted into stannous chloride it should comply with the tests directed under that salt.

Zinc for Arsenic Test.—The Zinc should preferably be in globular form, about 3 to 6 mm. in diameter, known as No. 7 Shot Zinc. It should be free from sulphur and phosphorus. The stain from 8 Gm. of Zinc should scarcely be perceptible when determined by a blank experiment.

Heavy Metals Test.—This test is to be used to detect the presence of undesirable metallic impurities in official chemical substances or their solutions; these should not respond affirmatively within the stated time. Acidulate 10 Cc. of a solution of the substance in distilled water (1 in 50) contained in a test-tube of about 40 Cc. capacity with 1 Cc. of diluted hydrochloric acid (unless otherwise directed), warm it to about 50° C., add an equal volume of freshly prepared hydrogen sulphide T. S., and allow the mixture to stand in a well-stoppered test-tube, in a warm place, at 35° C. for half an hour. At the end of this time the mixture should still possess the odor of hydrogen sulphide; if not, it should be thoroughly saturated with the gas and again set aside for half an hour. Any change in the color of the solution which is being tested should be noted by comparison with the same volume of the hydrogen sulphide T. S. (which has been likewise acidulated), when viewed crosswise by reflected light while held against a white surface.

GREAT PURCHASE OF SUGAR.

The Western Mail states that in consequence of the cessation of the British supply of beet sugar from Germany, Austria, and Belgium, Mr. McKenna, Home Secretary of the British Government, has purchased 900,000 tons of raw sugar at about £20 ($97.33) per ton, the transaction involving an outlay of about £18,000,000 ($87,597,000). The sugar has been purchased in Demerara, Java, Mauritius, and other places. This is by far the largest purchase of sugar which has ever been made. The sugar is to be sold virtually at cost price to the refiners, who by arrangement with the Government have agreed to sell the commodity when refined to the dealer at a fixed price based upon the cost of the article, plus a fair manufacturing profit.

AMYL NITRITE; ITS PREPARATION, PURITY AND TESTS.

FRANK O. TAYLOR, PH. C.

(Continued from September Number.)

(3) For the third experiment a sample made from alcohol No. 1, which had not been saturated with the nitrous gas, was used. Before fractionation it assayed 65 percent. 100 cc. were then distilled and each of the parts tested separately for the content of amyl nitrite.

Below 80°	2%	99°-100°	6%
80°-90°	5%	100°-101°	5%
90°-92°	2%	101°-105°	13%
92°-94°	5%	105°-110°	9%
94°-96°	7%	110°-120°	10%
96°-97°	2%	120°-130°	14%
97°-98°	6%	Residue above 130°	7%
98°-99°	5%		

Fraction 90°-100°— *Assay*—87.3%.
Acidity—0.2 cc.
Fraction 101°-120°— *Assay*—74.2 %.
Acidity—0.3 cc.
Fraction above 120°— *Assay*—7.4%.
Acidity—0.5 cc.

Amyl nitrite, or compounds posing as such, is still present in the distillate above 120°, being retained by the unchanged amyl alcohol or the other high boiling compounds. The higher boiling portions are seen to be the most acid.

(4) A fourth experiment using alcohol No. 3 was for the purpose of following each step in the process and checking it by assay. Process was the same as before except that the alcohol was not cooled. From 150 cc., 175 cc. of crude unpurified nitrite was obtained.

Assay before washing and drying—82.6%
Assay after washing and drying—86.4%

showing an increase in percentage by the removal of non-nitrous compounds and reduction of volume.

Distillation proceeded as follows:

Below 94°	1.4%	100°-101°	6.9%
94°- 96°	5.5%	101°-105°	10.8%
96°- 97°	11.7%	105°-110°	6.2%
97°- 98°	15.2%	110°-120°	3.5%
98°- 99°	15.9%	120°-125°	3.5%
99°-100°	11.7%	Residue	4.8%

90°-100° 61.4%
94°- 99° 48.3%

Assay of fraction 90°-100° 97.3%
Assay of fraction above 100° 83.8%

(5) Experiment five was almost the same as four. Alcohol No. 1 was used, the crude nitrite was shaken with soda ash to remove acid and water at the same time.

Assay after digestion with soda ash—87.1 percent.

Distillation:—

Below 90°	few drops	99°-100°	10.0%
" 94°	1.3%	100°-101°	4.7%
94°-96°	10.7%	101°-105°	10.0%
96°-97°	14.0%	105°-110°	6.0%
97°-98°	18.7%	Residue above 110°	9.3%
98°-99°	12.0%		

Assay of fraction 90°-100° ..... 97.7 percent
Assay of fraction above 100° ..... 68.5 percent

(6) The preceding experiments having revealed the difficulty of *completely* converting amyl alcohol to the nitrite in spite of the fact that almost all of it may be easily changed, further experiments were made to determine how far this conversion could be carried by this process. To this end 150 cc. of alcohol No. 1 was partially saturated with nitrous acid and then, continuing the stream of gas, it was heated gently until distillation began. The thermometer was kept *in* the liquid to guard against any unnecessary heating. A mixture of amyl nitrite and water with perhaps a little amyl alcohol distilled quite constantly at 85°-86° (temperature of liquid) until about 150 cc. of distillate was obtained and bumping began in the flask. The stream of gas was now stopped, the thermometer raised to its usual place in the vapor and distillation continued to 100°. At this point the distillation was stopped and a stream of nitrous gas again introduced into the liquid in the flask and continued until it passed through without absorption. After this, distillation was resumed as before. A third time this was repeated in the residual liquid, then the mixed distillates were washed with water, twice with sodium carbonate solution, and again several times with water, then dried over calcium chloride. This crude product amounted to 133 cc., had an acidity of 0.7 cc. and assayed 91.6 percent.

Distillation:—

Beginning at 93°		98°- 99°	18.4%
Below 94°	1.6%	99°-100°	8.0%
95°-96°	8.8%	100°-101°	2.4%
96°-97°	16.8%	Residue above 101°	16.8%
97°-98°	24.8%		

90°-100° 78.4%
94°- 99° 68.8%

Here is an amyl nitrite made without any rectification, much superior to either U. S. P. or B. P. standards. In order to find how nearly a perfect amyl nitrite was obtained by this one rectification without a fractionating column, the 78 percent distilling between 93° and 100° was again assayed and fractionated.

Assay.—96.7 percent.

Distillation:—

92°-94°	6.7%	97°-98°	11.1%
94°-95°	11.1%	98°- 99°	5.6%
95°-96°	25.6%	99°-100°	3.3%
96°-97°	31.1%	Residue above 100°	4.0%

90°-100° 94.5%
94°- 99° 84.5%

Anything better than this cannot be desired for therapeutic use.

Production of Pyridine Nitrite in Manufacture of Amyl Nitrite.

When the residue left in the flask after the third distillation in experiment No.

6 for the production of amyl nitrite was allowed to cool, long, silky crystals formed on the sides of the flask. Noticing this peculiar fact the residue was poured into a glass evaporating dish and set on ice. No crystals formed at once but after some hours a considerable crop of matted needle-shaped yellow crystals was formed. They were readily soluble in the mother liquor on warming; so much so that pressure between filter papers would not remove excess of mother liquor since the crystals would redissolve even at room temperature and be absorbed by the paper. They were finally partially purified by washing with ether on a vacuum filter.

They were extremely soluble in water, very soluble in alcohol and chloroform, somewhat soluble in amyl alcohol and amyl nitrite, slightly soluble in ether and to a less degree in petroleum ether. They had a marked odor resembling pyridine, were strongly acid to litmus and gave a marked test for nitrates. They melted at about 116°.

From their crystalline appearance, odor and tests they were suspected to be pyridine nitrate, so in order to fully identify them the lower aqueous layer, resulting from the manufacture of a much larger quantity of amyl nitrite, was separated and evaporated on a steam-bath until crystals began to form. On cooling in a desiccator a considerable quantity of crystals formed and these were carefully separated from the small quantity of mother liquor and washed with ether on a vacuum filter. The crystals so obtained were yellowish in color and were purified, by three times recrystallizing from water, freeing from mother liquor each time on a vacuum filter and washing with ether. They were now pure white needles melting at 117°-118°, not hygroscopic and soluble exactly as the previously obtained impure crystals and were identical with the crystals of pyridine nitrate prepared from pure pyridine.

The presence of pyridine nitrate in amyl nitrite, or its production in amyl-nitrite manufacture, seems not to have been mentioned before, tho it is possible that the crystals of ammonium nitrate mentioned by Maisch (Am. Jour. Pharm., 1871, 146) were in reality pyridine nitrate.

Cause of Production.

One of the reactions producing pyridine is the heating together of iso-amyl nitrite and phosphorus pentoxide. It is reasonable to suppose that the hot vapors of nitrous acid together with a small quantity of nitric acid carried over at the same time will react with amyl alcohol to form pyridine nitrate. The fact that pyridine has been found in impure amyl alcohol may have some significance in this connection tho from experiments made there was no evidence of pyridine being present in the alcohol used.

To prove that the action of nitric acid on amyl alcohol produces pyridine nitrate, nitric acid was boiled in one flask and the vapor passed through 150 cc. of amyl alcohol contained in a second flask, for several hours; the alcohol used being the same as that used for the production of most of the amyl nitrite. The aqueous layer was separated, the alcohol washed with water and the washings, together with the solution first separated, evaporated on the steam-bath. Crystals were obtained which on purification proved to be pyridine nitrate.

A second lot of 150 cc. of the same amyl alcohol was shaken with 5 cc. of concentrated nitric acid and after standing for a short time the alcohol was washed well with water and the washings evaporated as before. Here also pyridine nitrate was produced.

A sample of Kahlbaum's amyl alcohol distilling completely between 130° and 132°, when shaken with nitric acid in the same manner and subsequently washed, yielded a small amount of pyridine nitrate crystals. The quantity of these was, however, much less than with the preceding sample.

We have these three hypotheses to account for the production of pyridine nitrate. (1) The presence of pyridine in the amyl alcohol; (2) the production from some impurity in the amyl alcohol either directly or by catalytic action; (3) the production direct from amyl alcohol. The first of these can scarcely be considered in view of the above experiments on amyl alcohol distilling so perfectly at the theoretical boiling point. Of the next two the second seems preferable.

Further investigation on this point was prevented by lack of time but would be of interest.

By reason of its extreme solubility in water and low solubility in amyl nitrite, pyridine nitrite can be completely removed from amyl nitrite by thorough washing with successive small quantities of water. Amyl nitrite may be tested for pyridine nitrate or water-soluble nitrates in the following manner:

Thoroughly agitate 10 cc. of amyl nitrite with 5 cc. of water in a separatory funnel, run off 2.5 cc. of the water into a test-tube, add 5 cc. of 10 percent. sulphuric acid and sufficient urea to effect the destruction of all nitrites. This point may be ascertained by removing a portion of the solution and adding iodo-starch paste. If no blue color be produced add to the rest of the fluid a few drops of iodo-starch paste and a piece of pure zinc. If nitrates are present the solution will soon become blue.

By this test amyl nitrite which has not been washed well was shown to contain soluble nitrates, supposedly entirely pyridine nitrate, while after thorough washing no trace of nitrates was made apparent by this test. Hence an amyl nitrite which shows this nitrate reaction has not received careful washing and, in view of the noxious character of pyridine compounds, should be classed with the undesirable samples.

CHARACTER OF NITRITE FROM DIFFERENT FRACTIONS OF SAME ALCOHOL.

If the alcohol used distils over a range of three or four degrees what difference, if any, would there be in nitrite made from different fractions?

To throw some light on this a liter of alcohol No. 1 was distilled and the first 100 cc. of distillate, and last 100 cc. remaining in the flask, was converted to nitrite.

(7) The same method was used as for (6) excepting the repetition of the nitriting after the first distillation. From the 100 cc. of alcohol in each case, 100 cc. yield was obtained after washing and drying with A (the first fraction) and 94 cc. with B (the last fraction).

Assay:—A ..... 93.9 percent
B ..... 91.5 percent

Distillation:—	A	B
Below 92°	2%	....
92°- 94°	9%	....
94°- 96°	28%	1%
96°- 97°	16%	18%
97°- 98°	14%	37%
98°- 99°	9%	11%
99°-100°	6%	11%
100°-101°	....	5%
101°-105°.	....	7%
Above 100°	14%	20%
Above 105°	....	8%
90°-100°	84%	78%
94°- 99	67%	67%

Both products are excellent in assay and distillation, and, tho some agreement is shown in quantity of distillates at 90°-100° and exact agreement at 94°-99°, yet the greater amount of distillate from A is about two degrees lower than that from B.

(8) This experiment was carried out by keeping the amyl alcohol cold with an ice-water bath and saturating with nitrous acid slowly and as completely as possible, then washing, drying and distilling, collecting the portion between 90° and 100°. Of the washed and dried nitrite 83.3 percent distilled at the required temperature. This was now assayed and fractionated.

Assay.—99.7 percent.
Distillation:—

94°-96°	9%	98°- 99°	9%
96°-97°	38%	99°-100°	5%
97°-98°	32%	Residue	6%

70 percent within one degree of the theoretical boiling point.

In order to compare the amyl nitrite obtainable from this alcohol and from a very pure sample both by the nitrous-acid process and the sodium nitrite-sulphuric acid process, a number of experiments were made.

(9) Kahlbaum's amyl alcohol was treated with nitrous acid as in the preceding, no arrangement for cooling being made, and continuing the current of gas until it passed unabsorbed. It was then permited to stand until the brown color disappeared and after that again treated with nitrous gas. Finally, let stand for some hours before preliminary purification.

Assay.—74.4 percent.
Distillation.—(In brief.)

Beginning about 96°		105°-110°	18.0%
Below 100°	13.3%	110°-120°	12.0%
100°-105°	42.3%	120°-130°	6.0%

Continuing rapidly to 140° and a residue remaining undistilled at 155°.

(10) As for (9), shortening the length of treatment with nitrous acid, this being continued only until the amyl nitrite began to turn brown.

Assay.—77.6 percent.
Distillation:—

Beginning about 93°		102°-105°	9.9%
93°- 98°	10.0%	105°-110°	7.4%
98°- 99°	18.7%	110°-145°	9.7%
99°-100°	16.7%	Residue	5.4%
100°-102°	18.7%		

(11) Process carried out as in the preceding shortening the length of the time during which the stream of nitrous gas was passed into the alcohol.

Assay.—57.7 percent.
Distillation:—

Below 90°	5.3%	105°-110°	10.7%
90°-100°	21.0%	110°-130°	14.0%
100°-105°	32.0%	Residue above 130°	15.0%

The part boiling below 90° is due to imperfect drying and consequent presence of water.

(12) The amyl alcohol was heated gently with a micro-burner so that a portion of the amyl nitrite formed distilled over. Again the result was poor.

Assay.—70.4%.
Distillation:—

Below 94°	0.7%	102°-105°	13.3%
94°- 98°	9.3%	105°-120°	11.3%
98°-100°	20.0%	120°-135°	5.4%
100°-101°	12.7%	Residue	16.7%
101°-102°	8.7%		

(13) Finding that under none of these conditions did this alcohol yield good results, in number 13 the alcohol was kept cool with ice-water and the nitrous gas passed slowly.

Assay:—
Distillation:—

Below 95°	1.2%	99°-100°	8.1%
95°-96°	1.3%	100°-105°	8.7%
96°-97°	5.6%	105°-110°	1.9%
97°-98°	51.9%	Residue	3.1%
98°-99°	16.3%		

90°-100°	84.4%
94°- 99°	76.3%

This is an excellent result, better than any so far obtained without rectifications: but the necessity for cooling is very apparent. The result is, however, not so far superior to the best obtained from the less pure alcohol as might have been expected.

(14) The nitrous-acid process has been shown to yield excellent results when carefully carried out, both as regards good product and high yield. It would be interesting to know whether the sodium nitrite-sulphuric acid method yields sufficiently better results to justify its use on a manufacturing scale.

Alcohol No. 1 was used and the process carried out as given by Dunstan and Wooley for iso-butyl nitrite (Pharm. Jour. (3) 19, 487). Sixty-eight grammes of 95 percent sulphuric acid was mixed gradually with 152 cc. amyl alcohol, keeping the mixture cold. This was now run very slowly beneath the surface of a solution of 100 grammes sodium nitrite in 300 cc. of water, cooling with a bath of ice-water. After the reaction was ended the amyl nitrite was washed and dried as in the other process.

The product was very dark in color, being reddish-brown, and this was unchanged by washing. Bad as was its appearance, it tested surprisingly well. *Acidity*—0.4 cc. *Aldehyde*—None. *Assay*—90.9 percent.

Distillation:—

Below 92°	0.7%	98°- 99°	7.1%
92°-94°	3.6%	99°-100°	3.6%
94°-96°	11.4%	100°-105°	4.3%
96°-97°	42.8%	Residue	6.0%
97°-98°	19.3%		

90°-100°	88.5%
94°- 99°	80.6%

This is not equal to the assay of (13) but is superior to it in distillation, in which respect it is also superior to any of the preceding experimental samples.

(15) It remained to make a similar experiment on the purest alcohol. Kahlbaum's alcohol treated in like manner as above yielded, from 150 cc., 135 cc. of a brownish yellow amyl nitrite.

Assay.—94.8 percent.

Distillation:—

95°-96°	4%	98°- 99°	5%
96°-97°	68%	99°-100°	5%
97°-98°	12%	Residue	5%

95°-100°	94%
96°- 98°	80%

Of the whole product, 60 percent distilled between 96.5° and 97°. This is approaching very closely to a pure amyl nitrite, and is obtained, it must be remembered, without any rectification.

At a later date a quantity of amyl nitrite was made on a manufacturing scale, using the arsenic-sulphuric acid process, which gave exceptionally good results. Amyl alcohol No. 1 was used, nitrous gas was slowly passed through it, keeping the alcohol cooled to about room temperature, until the solution was brown. It was then allowed to stand in the sunlight till it changed to a light green color and was then washed thoroughly with 5 percent sodium carbonate solution and dried over soda ash.

Assay.—98.6%.

Distillation:—

Below 95°	4%	97°- 98°	10%
95°-96°	16%	98°-100°	6%
96°-97°	60%	Residue	4%

Here is 86 percent distilling within a range of 3° and 96 percent between 90° and 100°.

High Boiling Substances Produced with Amyl Nitrite:—From the temperature reached in the distillation of many of the lots made by the nitrous-acid process, it appeared that some body was produced, having a boiling point higher than amyl alcohol, so for the purpose of obtaining any information that might present itself the fractions boiling below 90° and above 100° from several of the preceding experiments were united and treated again with nitrous gas, washed, dried, assayed and distilled.

Assay.—64.4 percent.

Distillation:—

Below 96°	2.3%	102°-105°	6.2%
96°- 98°	10.8%	105°-140°	10.0%
98°- 99°	8.5%	140°-150°	2.3%
99°-100°	11.5%	150°-160°	4.2%
100°-101°	14.6%	160°-175°	4.6%
101°-102°	13.9%	Residue above 175°	9.2%

Thirty-three percent distilled below 100°, but the most for any one degree was between 100° and 101°. After reaching 105° the amyl nitrite had evidently almost all distilled, for the temperature rose rapidly to 140° and over 9 percent remained undistilled at 175° with the temperature still rising. This showed that some body with a very high boiling point was produced. Whether this was from the amyl alcohol or from an impurity, or what it was, no attempt was made to ascertain, as that went beyond the scope decided on for this work. It presents, however, an interesting problem for any one with the time to devote to it, as this high boiling point substance was undoubtedly present to a small extent in unrectified amyl nitrite, such as is chiefly found on the market.

Boiling Point of Amyl Nitrite and Water.—In a number of distillations of amyl nitrite it was noticed that tho the assay would be high, yet the point of beginning of the distillation would be below 80° and that there was a more or less prolonged time during which the thermometer remained nearly stationary at about 80°. In these same cases it was always noticed that a trace of water was present. This seemed good evidence that a binary mixture of amyl nitrite and water distilled at this point. To determine if the conclusion were true, 100 cc. of amyl nitrite were carefully rectified and the part distilling between 96.5° and 97.5°, amounting to 37 cc. was taken as practically pure. This was mixed with 15 cc. of water and distilled in the same manner as other amyl nitrites.

Distillation:—

79°-80°	12 cc.	= 23.0%
80°-81°	21 cc.	= 40.4%
81°-85°	4 cc.	= 8.8%

Between 79° and 81° 63.4 percent of the mixture distilled over and the ratio of water to amyl nitrite was 1:11, by volume, so that nearly 82 percent of the original amyl nitrite distilled between 79° and 81°. The ratio between the water and nitrite for the portion distilling between 81° and 85° was 1 : 9, which goes to show that as the ratio between water and nitrite changes in the distilling flask there is also a change in the ratio for the distillate. This comparatively low boiling point of the binary mixture constitutes a more delicate test for water in amyl nitrite than the freezing test, for it has been repeatedly found possible to detect traces of moisture in samples which were passed as perfectly dry by the freezing test. Even in the presence of but minute traces of water, the first few drops of distillate will be near 80° and then the temperature will run quickly above 90°. Even before distillation begins, the binary mixture will vaporize into the neck of the distilling flask and there condensing show drops of water on the glass, which are not to be mistaken for condensed amyl nitrite. In view of the proneness to decomposition of amyl nitrite in presence of moisture, this test becomes of value as certifying to a freedom from moisture not shown by freezing.

Much more accurate data regarding a binary mixture of water and amyl nitrite would be of interest, such as might be obtained by a delicate fractional distillation apparatus like Young's evaporator still-head. Also, the investigation of a probable ternary mixture of water, amyl alcohol and amyl nitrite is to be recommended.

Summary:—In conclusion we would call attention to these various facts:

1. That the character of amyl nitrite on the market to-day is, as a whole, mediocre, with a little very good and other small part very bad.

2. That with proper care first-class amyl nitrite may be made commercially.

3. That the nitrous acid process is preferable for commercial work with fairly pure alcohol but the sodium nitrite-sulphuric acid process is preferable when very pure alcohol is used and a product of great purity desired.

4. That a very pure alcohol seems to be less easily converted to nitrite by the nitrous acid process than one less pure.

5. That, while the most of an alcohol may be easily changed to nitrite by the nitrous-acid process, the last portions are much more difficult to convert.

6. That the amyl nitrites made from the first and last fractions of an alcohol boiling chiefly between 128° and 132° differ slightly in boiling point.

7. That certain compounds of very high boiling point are produced.

8. That pyridine nitrate is produced by the nitrous-acid process from even a very pure alcohol and to a greater degree from less pure varieties.

9. That amyl nitrite shows a reduction of acidity by distillation.

10. That a binary mixture of pure amyl nitrite and water distil at about 80° and this fact may be used as a more delicate test for moisture in amyl nitrite than the freezing method.

11. That neither the assay nor distillation alone give reliable information as to the character of amyl nitrite.

12. That considering the results obtained the following is by no means too high a standard:—

Specific Gravity.—0.870—0.880 @ 15°=0.865—0.875 @ 25°.

Acidity.—U. S. P.

Aldehyde.—U. S. P.

Nitrate.—No more than a faint trace when tested by the method given.

Assay.—The U. S. P. method, modified to require not less than 90 percent.

Boiling Point.—At least 80 percent to distil between 90° and 100°.

Moisture.—No traces of water to be shown at the beginning of distillation by a momentary lowering of the boiling of any part to about 80° C.

FROM THE LABORATORIES OF THE PARKE, DAVIS CO.

REVIEW OF CURRENT PHARMACEUTICAL LITERATURE.*

CHARLES H. LAWALL, PH. M.

The following abstracts are intended to give, in as brief a form as possible, the literature of the month having a practical bearing, direct or indirect, upon the subject of pharmacy and allied sciences. No attempt has been made to consider articles written from the purely academic standpoint, although a number of such articles, most of them excellent in character, are scattered throughout the journals for the month:—

JOURNAL OF INDUSTRIAL AND ENGINEERING CHEMISTRY.

The Determination of Mercuric Iodide in Tablets:—The difficulties in the way of estimating mercuric iodide in tablets are outlined and a method is proposed, based upon the oxidation of organic matter and solution of the mercuric compound by digestion with an acidulated solution of potassium chlorate under a reflux condenser. The final determination is made by precipitation of the mercury as mercuric sulphide. The results range within 3 or 4 percent. of the correct figures in known samples.—A. W. Bender, Sept., 1914, p. 753.

Estimation of Antipyrin:—A very satisfactory method for the quantitative determination of antipyrin, based upon its absorptive power for iodine, is proposed, which is satisfactory in the presence of phenacetin, acetanilid or sulfonal, and which, in known mixtures, enabled recoveries within 1% of the correct amount to be made.—W. O. Emery and S. Palkin, Sept., 1914, p. 751.

The Ferric Alum Estimation of Casein:—The authors compare the Kjeldahl nitrogen-determination method of estimating casein, with a method based upon the reaction and precipitation which occurs when milk is mixed with a standard solution of ferric alum, the excess of the latter being determined by the well-known iodometric method. The time consumed in carrying out the proposed method is only 35 minutes and according to tabulated results its accuracy compares favorably with the more tedious and time-consuming methods which have been used heretofore.—H. V. Arny and H. H. Schaefer, Sept., 1914, p. 748.

Hypothetical Combinations in Water Analysis:—This is a very complete resumé of a difficult subject, and one upon which all the light that can be thrown is needed. The various inconsistencies and errors shown in reports of water-analyses, which makes it frequently necessary to entirely re-calculate the analytical findings of one chemist, in order to bring them to a suitable basis for comparison with another, are dwelt upon in detail. The author condemns the frequently employed method of reporting the substances found in their hypothetical combinations and favors reporting the analysis in ionic form.—R. B. Dole, Sept., 1914, p. 710.

The Effect of Bread Wrapping on the Chemical Composition of the Loaf:—This is an exhaustive study of the subject, showing the results in graphic charts. The conclusions are emphatically in favor of the wrapping of bread, as a needed sanitary measure, which in no way detracts from the nutritive value or the palatability of the product.—H. E. Barnard and H. E. Bishop, Sept., 1914, p. 736.

THE PRACTICAL DRUGGIST.

Camphor and Its Preparations:—This is a continuation of a most interesting and valuable article. In the present instalment the author gives formulas for a number of unofficial

* Read at the Philadelphia Branch of the American Pharmaceutical Association, Oct., 1914.

preparations of the drug, including the following, which are not usually found in American works of reference, but are occasionally called for by foreign practitioners:

Collyrium Astringens Lutenum Violii.
Aqua Cosmetica.
Emulsio Camphorata.
Unguentum Hæmorrhoidale.
Unguentum Ophthalmicum Comp. (P. G.).

The paper concludes with a consideration of some difficult combinations of camphor to be dispensed in pill form.—J. Leon Lascoff, Sept., 1914, p. 382.

Figuring the Selling Price:—The perennial topic of the calculation of net profits and the method of obtaining the proper figure for the selling price is graphically illustrated in this article, which includes tables so simple and yet so comprehensive that any desired net profit may be estimated almost at a glance.—A. G. Houston, Sept., 1914, p. 384.

AMERICAN JOURNAL OF PHARMACY.

Rhamnus Purshiana:—A very interesting and comprehensive article upon the subject, well illustrated. It is interesting to note that the original specimens which served as the type for the classification and naming of the plant were collected by Lewis and Clark on their famous expedition to the Northwest in 1805 and 1806 and sent to Frederick Pursh, the well-known Philadelphia botanist. Pursh named the plant *Rhamnus alnifolia*, but De Candolle, a contemporary botanist, in 1825, changed the name to *R. Purshiana* in honor of Pursh. A specimen was growing in Bartram's Gardens, Philadelphia, as late as 1838, and served as a basis for Rafinesque's studies of this for his "Silva Telluriana."—C. W. Johnson and Edith Hindman, Sept., 1914, p. 387.

The Insecticidal Value of Fluidextract of Larkspur Seed:—The author made a number of experiments upon the comparative value of the preparation as made with various menstrua and with preliminary treatment of the drug with various solvents. His conclusions are that the preliminary removal of the oil and its rejection, as frequently practiced for the purpose of giving a clear, bright preparation, is inadvisable and that the menstruum which will extract the largest proportion of fixed oil is the proper one to use. The preparations of highest efficiency were those in which petroleum benzin was used to first extract the drug, the residue from the evaporation of the benzin being subsequently taken up with 95% alcohol, in which it seems to be almost completely soluble. The preparation made in this manner proved to be more than six times as strong as a preparation made by simple extraction with diluted alcohol and ten times as strong as one made with 30% alcohol.—J. B. Williams, Sept., 1914, p. 414.

JOURNAL AMERICAN CHEMICAL SOCIETY.

Some Natural Indicators:—The author has made a very interesting study of the indicator value of the natural coloring matter of about 30 varieties of wild flower petals and those of some cultivated plants in which the most interesting feature seems to be the fact that none of the yellow colors of flowers are affected by either acids or alkalies, while whites are changed to yellow by alkalies and reds and purples are changed to some shade of green or blue by alkalies and back to their original color or a brighter shade by acids.—H. W. Brubaker, Sept., 1914, p. 1925.

JOURNAL OF THE FRANKLIN INSTITUTE.

Occurrence of Aldehydes in Garden and Field Soils:—Salicylic aldehyde was found in soils which had been found to be unproductive. The soils examined were from various parts of the U. S. Out of 14 garden soils, 5 contained aldehydes, and of 60 field soils, 12 contained aldehydes. Check experiments made with salicylic aldehyde upon growing plants showed the retardation to amount to from 30 to 40 percent.

The reaction of the soil or the character of the crop seemed to have no bearing upon the occurrence of the aldehyde. No proportions are given. Of 30 productive soils but 3 contained aldehydes, while of 30 unproductive soils, aldehydes were found in 9. It is not known

whether salicylic aldehyde is the only member of that group occurring in soils, but positive reactions were obtained for that one in every instance when aldehydes were found to be present.—Oswald Schreiner and J. J. Skinner, Sept., 1914, p. 329.

JOURNAL AMERICAN MEDICAL ASSOCIATION.

Potassium Permanganate, a Substitute for:—The prohibitive price to which potassium permanganate soared soon after the outbreak of the war in Europe and the fact that large quantities of the article were used in house-disinfection by the Health Department of Pennsylvania, led to an investigation of the subject by Charles H. LaWall at the request of the Commissioner. This investigation showed that Sodium Dichromate can be used for this purpose if the formaldehyde solution be previously acidulated with 15% of its volume of commercial sulphuric acid. The disengagement of gas is more prompt than with the permanganate, and as far as general comparative effects are concerned the reaction seems to be equally effective.—Dr. Samuel G. Dixon, Sept. 19, 1914, p. 1025.

DRUGGISTS CIRCULAR.

Digitalis and Its Preparations:—Dr. Hatcher's article, which is the first instalment only, may without any derogation to the author, be characterized as a most thorough example of scientific iconoclasm.

The pharmacological studies which have been made by competent observers have resulted in overthrowing a number of the earlier beliefs concerning this drug, many of which have persisted and are still current. Among these beliefs that have been contradicted by Hatcher are:—

First, that the wild plant is more valuable than the cultivated.

Second, that the leaves of the second year's growth are superior to those of the first.

Third, that the leaf grown in certain geographical regions is more potent than that grown in others.

Fourth, that the activity of the leaves rapidly deteriorates unless they are kept with unusual precautions.

Fifth, that the infusion and the tincture differ in the character of their therapeutic effect.

The preparation of the infusion from the fluidextract is stated to be productive of a very average infusion made directly from the drug, which is almost impossible to exhaust with unsightly product which, however, is very likely to be more active therapeutically than the boiling water, according to Dr. Hatcher, unless it be ground to No. 60 powder.—Robert A. Hatcher, M. D., Sept., 1914, p. 517.

BULLETIN OF PHARMACY.

Startling Inaccuracy in Scales, Weights and Measures:—This is not a sensational headline from a yellow journal, but a statement of facts relative to the inspection of weights and measures in drug stores in Wisconsin by the official having charge of that department of state work.

In this investigation it was found that 43.6% of prescription weights were inaccurate, 22% of the scales were found to be defective or inaccurate, and 45% of the graduates incorrect.

Similar inspections have been made by inspectors in the States of Massachusetts and Kansas with equally startling results.

Prescription bottles were also inspected in Wisconsin and 23% were found to be undersized and 10% oversized.

The inspector, in commenting upon the causes of inaccuracy in weights and scales, states that much of the trouble is undoubtedly due to improper methods of cleaning with acids, alkalies or polishing compounds.—Sept., 1914, p. 384.

BULLETIN KANSAS BOARD OF HEALTH.

Coined Word Substitutes for Beauty Drugs:—This article is a most complete review of the many products advertised so cleverly in the newspapers under the caption "Health and

Beauty Hints," or some other similar heading, and in which the information is given in the shape of fictitious answers to mythical correspondents.

Amarol, Epp-o-tone, May-a-tone and Sartoin consist principally of magnesium sulphate with from 8 to 20 percent. of borax or boric acid.

Spurmax is magnesium salts perfumed. Saxolite is magnesium sulphate and alum.

Boric acid, zinc oxide and sodium thiosulphate (Hypo) are the principal ingredients in Almazoin, Borothol, Cerol, Citrox, Flowers of Oxzoin, Luxor and Zintone.

Ammoniated mercury, a dangerous poison for indiscriminate use in a toilet preparation is present in Freckle Cream, Mercolized Wax, Othine and Tanazin. "Antifreckle Lotion" was found to contain soap, water and corrosive sublimate.

A "wrinkle lotion" was found to be composed of alum, glycerin and water.

Eptol consists of soap, water and borax.

Clearola is composed entirely of sulphur.

Cuticle acid is a 2% solution of oxalic acid in alcohol and water.

Among the skin cleaners was Gloriol Glowene, consisting entirely of soft soap.

Kulux Compound contains bismuth, zinc oxide and glycerin and water.

Among the shampoo preparations which contain borax, soap and alkaline carbonates in varying proportions are Am-o-tone, Capthol, Therox and Canthrox.

Capo-oil and Adora Hair Dressing, both used for the hair, were found to contain wood alcohol as a solvent.

Quinzoin and Quinola, for dandruff, consisted of sodium bicarbonate, ground quassia and quinine.

Perfumed vaseline was advised for silky eyebrows under the name Pyroxin.

Delatone and Delol, both depilatories, contain principally barium sulphide.

Quintone contained hyposulphite of soda and borax.

Among the flesh reducers are Parnotis, composed of baking soda and Glauber's salt, and Marnola, containing phenolphthalein and dried thyroid extract.—L. A. Congdon, Sept., 1914, p. 210.

REPORT N. Y. CITY BOARD OF HEALTH.

The Pro and Con of Artificial Flavors and Colors:—This is an interesting review of the subject, going into details to some extent and citing interesting examples as illustrations of various points. The summary is as follows:

1. Many synthetic flavors and odors are decidedly injurious to the human organism, either through their action, *per se*, or through their decomposition products.

2. With a few exceptions they are merely imitations and not identical with the real substances desired.

3. Only very rarely are these unnatural adjuvants to be classed as foods.

4. None are really vitally necessary since natural flavors and odors are available to everyone.

5. They may be used for fraudulent purposes.

6. At best, they are of doubtful value and wherever there is any doubt the consumer should have the preference.—Sept. 19, 1914.

REPORT OF COMMITTEE ON UNOFFICIAL STANDARDS.

The following portion of the report of the Committee on Unofficial Standards relates to certain crude drugs and chemicals suggested for inclusion in the next revision of the National Formulary, and by order of the Council is published in the JOURNAL in order to afford opportunity for discussion before the standards proposed are finally adopted.

Manufacturers, importers, analysts, and others interested in any of the proposed standards, are requested to send their criticisms and comments to the chairman of the committee, Geo. M. Beringer, 501 Federal St., Camden, N. J.

APPROVED MONOGRAPHS SUBMITTED AS STANDARDS FOR UNOFFICIAL DRUGS AND CHEMICAL PRODUCTS.

ALLIUM.

Allium. Garlic.

1. The bulb of *Allium sativum* Linné (Fam. *Liliaceae*). Bulb subglobular, 4 to 6 cm. broad, compound, consisting of 8 to 15 bulbels (so called "cloves") and surrounded by 1 or 2 dry, whitish, membranaceous scales and attached to a flattened circular base from the lower portion of which arise numerous yellowish-white roots, bulbels more or less ovoid, in transverse section 3 to 4 sided, the outer surface being convex, summit acute and narrowed into a thread-like fibrous portion, base truncate, each bulbel covered by one or two layers of whitish, membranaceous scale-like leaves, beneath which is the light brown and pinkish, thin and coriaceous layer of epidermis, cohering but easily separable from the solid portion of the bulbel; odor of broken or bruised bulbel aromatic, disagreeable; taste intensely pungent and persistent.

Under the microscope, transverse sections show three distinct portions: (a) the large fleshy scale consisting chiefly of parenchyma enclosing scattered vascular bundles, epidermis in both ventral and dorsal surfaces consisting of small tabular cells; (b) the middle layer nearly circular in outline, about 0.750 mm. in diameter, the tissues resembling those of the outer fleshy scale, but the cells containing numerous yellowish-brown plastids; (c) an innermost bright green layer consisting of a single leaf folded lengthwise along the midrib so that the ventral surfaces lie close together.

Garlic should be used in the fresh condition only.

FLORES VERBASCI.

Mullein Flowers.

1. The dried corollas, with adhering stamens, of *Verbascum phlomoides* Linné, or of *V. thapsiforme* Schraeder, (Fam. *Scrophulariaceae*).

2. Verbascum flowers should be kept in a tight, dry container.

3. Corolla light-yellow, the outer surface grayish with a fine soft woolly indumentum, the inner surface sparsely hairy and finely veined; tube of the corolla only 1 or 2 mm. long and almost equally broad, the limb from 14 to 30 mm. broad, between wheel-shaped and saucer-shaped, obscurely two-lipped, the unequal lobes rounded-obovate. Stamens five, borne on the base of the corolla, shorter than the corolla, two of them longer than the other three, the filaments thick and fleshy, more or less pilose, especially the three shorter, usually orange colored. Stamen-hairs cylindrical, unicellular, non-branching, surface minutely reticulate, apex rounded, frequently enlarged. Pollen grains smooth, triangular and more or less rounded, 0.025 to 0.030 mm. in diameter. Odor peculiar, agreeable; taste mucilaginous, not agreeable. The flowers impart a yellow color when boiled with water, and a rather permanent green with dilute sulphuric acid, which latter color becomes brown upon the addition of alkalies.

HYDRANGEA.

Hydrangea. Seven-barks.

1. The dried rhizome of *Hydrangea arborescens* Linné (Farm. *Saxifragaceae*).

2. Rhizome, cylindrical, usually cut into

pieces 3 to 10 cm. in length, 3 to 20 mm. in diameter; light brown to yellowish-brown with a pinkish tinge, longitudinally wrinkled, marked by few elliptical lenticels and occasional prominent buds, short branches or stem scars, and from the lower surface arise a few coarse fibrous roots; fracture tough, splintery; internally yellowish-white or light brown, bark thin, easily separable from the distinctly radiate wood which surround a prominent whitish pith; inodorous; taste of the bark sweetish, becoming slightly acrid. Roots attaining a length of 25 cm. and a thickness of 2 mm., irregularly bent and branching, otherwise resembling the rhizome with the exception of the pith being wanting.

3. Under the microscope, sections of the rhizome of Hydrangea show a gray cork of a few rows of tabular cells, a cortex made up chiefly of parenchyma containing starch, large cells containing raphides and small isolated groups of stone cells or sclerenchymatous fibers; a woody cylinder composed of slender wedges made up of prominent tracheae with reticulate thickenings and tracheids separated by medullary rays 1 to 3 cells wide, the cells of which are filled with small starch grains; pith of large polygonal cells with prominent simple pores.

4. Powder: Light yellowish-brown, containing irregular fragments consisting of strongly lignified tracheae, tracheids and medullary ray cells; stone cells and sclerenchymatous fibers, 0.050 to 0.200 mm. in length, strongly lignified, the walls marked by simple and branching pores; raphides numerous, 0.070 to 0.130 mm. in length; starch grains mostly single, more or less ellipsoidal, occasionally with a prominent central cleft and varying from 0.002 to 0.010 mm. in diameter.

INULA.

Inula. Elecampane.

1. The dried rhizome and roots of *Inula Helenium* Linné (Fam. *Compositae*), with not more than 5 percent. of its stem bases.

2. Rhizome usually split into longitudinal or more or less oblique pieces to which may be attached one or more of the roots; up to 8 cm. in length and 4 cm. in diameter; externally grayish-brown to dark-brown, longitudinally wrinkled with occasional buds or stem scars and surmounted at the crown by a portion of the over ground stem; inner or cut surface somewhat concave, the edges incurved with the overlapping bark, yellowish-brown to grayish-brown, longitudinally striate and more or less fibrous near the cambium zone; fracture short and horny; inner surface light brown and marked by numerous circular or elliptical oleo-resinous canals; roots cylindrical and tapering, frequently curved or irregularly curled, up to 13 cm. in length and 1.5 cm. in diameter; odor aromatic; taste acrid, bitter and pungent.

3. Sections under the microscope show a corky layer of 4 to 7 rows of broad tabular cells; a cortex of numerous parenchyma cells containing inulin in irregular or fan-shaped masses and a number of large intercellular oleo-resinous reservoirs arranged in nearly radial rows and forming interrupted circles; woody portion consisting chiefly of parenchyma, a number of tracheae with simple pores or reticulate thickenings and associated occasionally with a few strongly lignified wood fibres, and oleo-resinous reservoirs similar to those occurring in the bark; parenchyma cells in the pith of the rhizome large, containing less inulin than the cells of the wood and bark and separated by large intercellular spaces.

4. Powder: Light brown; consisting chiefly of fragments of parenchyma containing inulin and small irregular separated masses of inulin; tracheae with simple pores and reticular thickenings associated occasionally with strongly lignified wood fibres; occasional reddish-brown fragments of the walls of the oleo-resinous canals.

IRIS.

Orris.

1. The rhizome of *Iris florentina* Linné *Iris Germanica* Linné, and *Iris pallida* Lamarck (Fam. *Irideae*), freed from the roots, peeled and dried.

2. In pieces of various form and size, sometimes branched, 5 to 10 cm. long and 2 to 3 cm. in diameter, usually round and plump or flattened and showing knotty enlargements. The under surface may show numerous round root scars and the upper surface remains of leaf scars; externally white or yellowish-white; fracture rough, showing a narrow cortex, a brown cambium layer and large central stele. Odor fragrant, resembling that of the violet; taste aromatic and bitter. The ash should not exceed 6 percent.

MACIS.

Mace.

1. The arillode of the seed of *Myristica fragrans* Houttuyn (Fam. *Myristicaceae*).

2. In narrow bands, 25 mm. or more long, somewhat branched and lobed above, united into broader bands below; yellowish to brownish-orange; greasy; odor fragrant; taste warm and aromatic.

3. When powdered, orange-buff to orange-brown in color. Mounted in water and examined microscopically the powder exhibits elongated epidermal cells; parenchyma containing very small amylodextrin granules, which are colored red-brown by iodine T. S.; large oil cells the contents of which are not greatly changed in color on the addition of alkali.

4. Powdered false or Bombay mace is yellow-brown to deep-brown in color and deficient in odor and taste. When mounted in water and examined microscopically it exhibits flattened thick-walled epidermal cells and oil cells much more numerous than in true mace and containing an orange-red resinous substance which is dissolved by alkalies to a blood-red liquid.

5. When moistened with hydrochloric acid, no greenish color should be produced (difference from and absence of arillode of *Myristica Malabarica* Lamarck or Bombay Mace).

6. If an alcoholic extract of Mace (1-10) be treated with potassium chromate T. S., the precipitate formed should be yellow, not changing to red on standing, nor should the solution develop a red coloration (difference from and absence of Bombay Mace).

7. If a piece of filter paper be saturated with an alcoholic extract of Mace (1-10), and 1 drop of potassium hydroxide T. S., be added, no blood-red coloration should be produced (difference from and absence of Bombay Mace).

8. The ash should not exceed 3 percent. and this should be almost completely soluble in hydrochloric acid.

9. Mace should yield not less than 8 percent. of volatile ether extract, and not less than 20 percent. nor more than 30 percent. of non-volatile ether extract.

PETROSELINUM.

Parsley Root.

1. The root of *Petroselinum sativum* Hoffmann (Fam. *Umbelliferae*).

2. The entire fusiform root up to 20 cm. in length and up to 2.5 cm. in thickness at the crown, or somewhat broken or cut into pieces; usually cut lengthwise into two or four sections, externally light yellowish wrinkled longitudinally, somewhat annulate, root scars distinct and corky; fracture tough when damp, brittle when dry; internally, cortex whitish and characterized by numerous reddish-brown oleo-resin cells, cambium zone distinct and brownish, wood about the same thickness as the cortex, slightly radiate and light yellowish in color. Odor aromatic; taste sweetish and pungent.

3. The powdered drug shows numerous truncate or somewhat angular starch grains up to .030 mm. in diameter, reticulate tracheae up to .060 mm. in width and thin walled, lignified fibers with simple pores.

4. Ash not more than 6 percent.

PIMPINELLA.

Pimpernel Root.

1. The dried rhizome and roots of *Pimpinella Saxifraga* Linné, or *Pimpinella magna* Linné (Fam. *Umbelliferae*).

2. Cylindrical or slightly tapering, about 10 to 20 cm. in length and from 1 to 1.5 cm. in diameter at the crown, frequently branching, sometimes split longitudinally or broken into pieces; the upper or rhizome portion annulate, with undeveloped stem buds and a few attached stem remains which should not be over 5 cm. in length; roots longitudinally wrinkled, slightly annulate, cortex thin, easily detached; fracture short when dry, tough and flexous when damp; externally light yellowish-brown; internally porous, cortex broad and whitish with numerous groups of projecting radial bast fibers and reddish-brown oleo-resin cells, wood yellowish, usually with a few indistinct fibers, medullary rays interrupted, cambium zone distinct; odor, aromatic; taste sweetish, pungent and acrid.

3. The powdered drug shows numerous simple or 2 to 4 compound starch grains from .004 to .010 mm. in diameter; secretion canals from .050 to .060 mm. in diameter; trachea reticulate or scalariform .035 to .070 mm. broad; fibers, thin walled numerous, thick walled with simple pores few (P. magna).

POTASSII FORMAS.

Potassium Formate.

1. It should contain, when dried, not less

than 98 percent. of potassium formate (KCOOH = 84.11). It should be kept in well-stoppered bottles.

2. Very deliquescent, colorless crystals, or white crystalline powder, odorless, taste saline bitter.

3. It is very soluble in water, soluble in alcohol.

4. Its aqueous solution is slightly alkaline to litmus, but should not redden phenolphthalein.

5. When the salt is heated, hydrogen is evolved and a residue is left which effervesces with acid, and imparts to a non-luminous flame a violet color.

6. On adding sodium bitartrate T. S. to the aqueous solution of the salt (1:20) a white crystalline precipitate is slowly formed which dissolves on the addition of ammonia water.

7. When ferric chloride T. S. is added to the aqueous solution of the salt (1:20) a red color is produced which is discharged by strongly acidulating with sulphuric acid.

8. The addition of mercuric chloride T. S. to the warm aqueous solution of the salt (1:20) produces a white precipitate of mercurous chloride, which turns gray on further warming in the presence of an excess of the formate.

9. The aqueous solution of the salt (1:100) should comply with the U. S. P. test for Limit of Heavy Metals.

10. 10 cc. portions of the aqueous solution of the salt (1:20) slightly acidulated with acetic acid should not be rendered turbid within five minutes by the addition of ammonium oxalate T. S., (calcium), or by calcium chloride T. S. (oxalic acid).

11. Weigh accurately about 2 gm. of Potassium Formate, previously dried to constant weight at 120° C. and ignite it thoroughly at a temperature not exceeding a red heat. Dissolve the residue in hot distilled water, filter, if necessary, and wash until washings cease to affect phenolphthalein. Then cool the solution and titrate with normal sulphuric acid V. S., using methyl orange as indicator. The number of cc. of normal sulphuric acid V. S. consumed should indicate not less than 98 percent. of potassium formate. Each cc. of normal sulphuric acid V. S. corresponds to 0.08411 gm. potassium formate.

QUININAE VALERAS.

Quinine Valerate.

1. The Valerate of the alkaloid quinine. It should be kept in well-stoppered amber-colored vials.

2. White lustrous crystals, having an odor of valeric acid and an intensely bitter taste.

3. It is very sparingly soluble in cold water, soluble in hot water, becoming less soluble by age on account of loss of valeric acid; readily soluble in alcohol.

4. Its aqueous solution is neutral or slightly alkaline to litmus.

5. On treating 10 cc. of the aqueous solution of the salt (1:1000) with a few drops of bromine water, then with an excess of ammonia water, an emerald green color will be produced.

6. The aqueous solution acidulated with sulphuric acid exhibits a blue fluorescence and emits the odor of valeric acid.

7. On incinerating 1 gm. of Quinine Valerate, not more than 0.1 percent. of ash should remain.

8. About 0.1 gm. of the salt should dissolve in 5 cc. of sulphuric acid without producing more than a light-yellow color (readily carbonizable impurities).

9. 10 cc. portions of the cold saturated aqueous solution of the salt should not give more than a slight turbidity with barium chloride T. S. when acidulated with hydrochloric acid (sulphate) or with silver nitrate T. S. when acidulated with nitric acid (chloride).

10. The quinine obtained by shaking out the salt with ammonia water and chloroform should comply with the U. S. P. test for absence of excessive amounts of other cinchona alkaloids.

SODII FORMAS.

Sodium Formate.

1. It should contain, when dried, not less than 98 percent. of anhydrous sodium formate (NaCOOH = 68.01). It should be kept in well-stoppered bottles.

2. A white crystalline powder, or colorless crystals, containing one molecule of water; odorless and having a saline bitter taste.

3. It is very soluble in water, sparingly soluble in alcohol.

4. Its aqueous solution is slightly alkaline

to litmus, but should not redden phenolphthalein.

5. When the salt is heated, hydrogen is evolved and a residue is left which effervesces with acid and colors a non-luminous flame intensely yellow.

6. Ferric chloride T. S. added to the aqueous solution of the salt (1:20) produces a red color which is discharged by strongly acidulating with sulphuric acid.

7. The addition of mercuric chloride T. S. to the warm aqueous solution of the salt (1:20) produces a white precipitate of mercurous chloride which turns gray on further warming in the presence of an excess of the formate.

8. The aqueous solution of the salt (1:100) should comply with the U. S. P. test for Limit of Heavy Metals.

9. 10 cc. portions of the aqueous solution (1:20) slightly acidulated with acetic acid should not be rendered turbid within five minutes by ammonium oxalate T. S. (calcium) or by calcium chloride T. S. (oxalic acid).

10. Weigh accurately about 2 gm. of sodium formate, previously dried to constant weight at 120° C. and ignite it thoroughly in a crucible at a temperature not exceeding a red heat. Dissolve the residue in hot distilled water, filter, if necessary, and wash until washings cease to affect phenolphthalein. Then cool the solution and titrate with normal sulphuric acid V. S., using methyl orange as indicator. The number of cc. of normal sulphuric acid V. S. consumed should indicate not less than 98 percent. of anhydrous sodium formate. Each cc. of normal sulphuric acid V. S. corresponds to 0.06801 gm. of anhydrous sodium formate.

STRYCHNINAE VALERAS.

Strychnine Valerate.

1. The Valerate of the alkaloid strychnine. It should be kept in well-stoppered amber-colored vials.

2. A white crystalline powder, having an odor of valeric acid and an intensely bitter taste.

3. It is sparingly soluble in water, becoming less soluble by age on account of loss of valeric acid; soluble in alcohol or chloroform; slightly soluble in ether.

4. Its aqueous solution is neutral or slightly alkaline to litmus.

5. On dissolving about 0.05 gm. of Strychnine Valerate in 2 cc. of sulphuric acid not more than a faint yellowish color should be produced, but on adding a fragment of potassium dichromate a deep violet color will be produced which changes to orange or yellow.

6. When sulphuric acid is added to the salt, the odor of valeric acid is evolved.

7. On incinerating 1 gm. of Strychnine Valerate, the ash should not exceed 0.1 percent.

8. 10 cc. portions of the aqueous solution of the salt (1:100) should not be affected at once by barium chloride T. S. when acidulated with hydrochloric acid (sulphate) or by silver nitrate T. S. when acidulated with nitric acid (chloride).

9. About 0.02 gm. of the salt moistened with nitric acid may be colored yellow, but should not become red or reddish (brucine).

THYMUS.

Thyme.

1. The dried tops of *Thymus vulgaris* Linné (Fam. *Labiatae*) collected when the plant is in flower.

2. Stems quadrangular, about 0.5 mm. in diameter, greyish-brown or purplish in color, pubescent, nodes from 5 to 20 mm. apart, occasionally with the opposite leaves attached; leaves linear, linear lanceolate, or ovate oblong, 0.5 to 4 mm. long and from 0.5 to 2 mm. broad, apex acute, base obtuse tapering into a petiole 0.5 to 2 mm. long, margin revolute, upper surface greyish-green, puberulent, with numerous one-celled thick-walled, non-glandular hairs, lower surface greyish, pubescent, with non-glandular one to four-celled, thick-walled, rough simple hairs, up to 0.135 mm. in length and usually curved at the first joint in the bases, numerous compound glandular secreting hairs with a short one-celled stalk occurring chiefly on the upper surface and depressed in the cuticle give the leaf a glandular-punctate appearance; inflorescence in about twelve-flowered axillary whorls; flowers polygamous, calyx tubular, about 4 mm. long, ovoid or slightly curved on the lower side near the base, 9 to 12 nerved, pubescent, the throat bearded with longitudinally striated straight simple hairs up to 1 mm. in length, bilabiate, upper lip three-toothed,

lower lip with two hairy ascending attenuate divisions, corolla about twice as long as the calyx, purplish, smooth within, slightly pubescent without, upper lip emarginate, lower spreading and three lobed, stamens slightly didynamous and exserted, stigma bifid; nutlets about 0.5 mm. in diameter, spheroidal and finely tuberculate. Odor agreeable, aromatic; taste aromatic and warming.

3. Ash not more than 10 percent.

X-RAYS SHOW ETHER WAVES.

Professor W. H. Bragg delivered at the British Royal Institution a lecture on X-Rays and crystalline structure. Two years, he said, had gone by since Dr. Laue made his surprising discovery of the interference effects accompanying the passage of X-Rays through crystals. The pioneer experiment had opened the way for many others, and a very large amount of work, practical and theoretical, had now been done. There was work enough in sight to absorb the energies of many experimenters, and there was sure to be far more than we could see. It would scarcely be an over-statement to say that Laue's experiment had led to the development of a new science. The experiment itself, which, to put it briefly, constituted a proof that X-Rays consisted of extremely short ether rays, had already been described and was well known. A fine pencil of X-Rays passed through a thin crystal slip and impressed itself on a photographic plate. Round the central spot were found a large number of other spots, arranged in a symmetrical fashion, their arrangement clearly depending on the crystal structure.

Mr. W. L. Bragg (the lecturer's son) had discovered the "reflection" method, and had shown that it was able to elucidate the position of all the spots on the Laue photograph. This conception led to the construction of the X-Ray spectrometer, which resembled an ordinary spectrometer in general form, except that the grating or prism was replaced by a crystal and the telescope by an ionisation chamber and an electroscope. In use a fine pencil of X-Rays was directed on the crystal, which was steadily turned until a reflection leaped out, and the angle of reflection was then measured. If we used different crystals or different faces of the same crystal, but kept the rays the same, we could compare the geometrical spacings of the various sets of planes. If we used the same crystal always, but varied the source of X-Rays, we could analyze the X-Rays, measuring the relative wave lengths of the various constituents of the radiation.

At this stage a critical point had been reached. If we knew the exact spacings of the planes of some one crystal we could by comparison find the spacings of all other crystals and measure the wave lengths of all X-radiations. Or if we knew the exact value of some one wave length we could find by comparison the values of all other wave lengths and determine the spacings of all crystals. But at this stage there was no absolute value either of wave length or spacings.

Mr. W. L. Bragg appeared to have overcome the difficulty by his comparison of the reflecting effect in the case of rock salt or sodium chloride and sylvine or potassium chloride, and the spectrometer had now become a means of measuring the length of waves of any X-radiation and the actual spacings of the atoms of any crystal.

BETTER DRUGS AS WELL AS FOODS.

MR. FRED WINDOLPH, NORWICH, N. Y.

The following address was delivered by Mr. Windolph at the recent meeting of the Association of Dairy Food and Drug Officials and was highly commended:

I am to speak to you today on behalf of the American Association of Pharmaceutical Chemists and, as I understand it, with reference to the relation which might exist or should exist between your honorable body and the manufacturers of medicinal products. The very able remarks which were made yesterday with reference to food products are applicable in a large measure to the conditions which exist in the manufacture of pharmaceuticals. But in addition to that we, as drug manufacturers, have problems which possibly the food men have not. And in speaking of "drug products" I do not refer to what are ordinarily known as patent medicines.

Our association is the oldest association of manufacturing pharmaceutical chemists. We were the first ones to organize for our mutual benefit and for the advancement of the science of pharmaceutical manufacturing.

I say we are the oldest, but even that does not date our beginning back very many years because it has only been within a few years that the manufacturers have gotten together and discussed the problems which enter into their daily work.

We make the preparations which are used by the physicians and which are prescribed by physicians for the alleviation of human suffering. We make thousands and thousands of pharmaceuticals and these are made in various forms. And, having so many items to handle, so many drugs and constituents to handle, we have many problems which cannot come to the manufacturer who specializes upon but a single thing.

If we were manufacturers of patent medicines it would be a simple matter for us to learn how we should label our goods and then our troubles would be over.

But we have, in the first place, the various medicines which enter into these preparations. They are not only chemical but they are vegetable constituents and they come to us from all corners of the earth in varying conditions. It is necessary for us to standardize our raw materials and we have our own difficulties there, as I am sure those of you who have anything to do with the importation of these chemical and vegetable ingredients will agree. We have our troubles in getting the proper materials to start with and then in the course of manufacture. We find it necessary to have control departments, employing a corps of chemists to assay and analyze the drugs, and then to pass upon the finished product. We have our troubles even after they leave our hands, so that you see the manufacturers' lot is not altogether a happy one. And when, added to these troubles, come questions of interpretations of the laws as to the proper labels for goods, there we are confronted with a condition which makes us welcome very heartily indeed the sentiment—that there should be uniformity in the laws throughout the country so that when we get an answer from one state or federal government as to labelling products we will know that that same answer will suffice.

We are more than glad to see this spirit manifested. And I was very much pleased to hear the discussion in reference to the net weights and measures law, the disposition that was shown by the state commissioner to wait for the national government to lay down its regulations for tolerance and so on before they make them in the states, so that when we do have them they will be uniform everywhere.

Then there is another matter which has been brought up here which gives us great hope and faith to believe that there is balm in Gilead. That is your constructive work for helping the manufacturers not only in the decision on technical questions in reference to labels, but also as to processes and in the conservation of waste products and other matters which enter in the practical manufacture of goods. In that you are undertaking a grand work, and it is one which will not only redound to the benefit of the manufacturer but to the country at

large. The most excellent paper by Dr. Barnard was a wonderful contribution along those lines. Dr. Kebler has done a great work for the manufacturers of pharmaceuticals in his very efficient investigation into the manufacture of tablets. He has written a wonderful paper on that subject which has been published in the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION and which will undoubtedly be of great benefit to every manufacturer of tablets in the country. I also wish to thank you gentlemen for the most excellent information which you put into these bulletins which you send out from time to time. My only regret is that we don't get more of them from more of the states.

The association which I represent was formed for this purpose of bettering the production of the articles of the manufacturers who belong to that association and, really, for the improvement of all who are engaged in the manufacture of medicinal products. Our aim is to get better raw materials, to eliminate waste, to improve methods of manufacture, and to make better goods where we can raise our standards—and we have found that all this has been of great benefit to us individually. We are all competitors, of course, and in days gone by we did not meet with one another, we did not consult one another. We felt that we could not associate very much with our competitors, but we find now that there is a great deal we can do for each other, and if in the constructive work which you contemplate we can coöperate wih you gentlemen, the work will be magnified and redound not only to your good and to our good but to the good of the people of the country at large. And, feeling, as I do, that there is a light breaking which helps to guide our pathway, I wish to thank you for permitting us as manufacturers of one particular line, to appear before you, and I wish to join in all the good words which have been said by the manufacturers here, and I wish also to say that I think we are all disposed to work in harmony with the known wishes of the gentlemen who are in charge of the administration of these laws. We, who were present this morning at the musical concert, had a manifestation of the beauties of harmony. Those of us who listened to that magnificent concert, had a manifestation of a true symphony. Those of us who listened to that magnificent concert could not help but be impressed with the great harmony of that wonderful organ. When the magnificent instrument responded to the touch of the organist I think we all felt lifted out of ourselves; we thought a little better of ourselves even, and certainly we thought more of our fellow-men. And so in the operation of the pure food laws as they apply to the manufacturers of this country, if we can have a spirit of harmony and coöperation I believe that we will all be better men, better executives, and better manufacturers, and in that way we will be doing much better and greater service for our country and for those who depend upon the industries represented here to-day.

NEW PHARMACY REGULATIONS.

A recent presidential decree establishes new pharmacy regulations governing the composition, labeling, sale, etc., of patent and other medicines in Venezuela. Pharmaceutical specialties of a determined formula must bear labels showing the quantity of active substances contained in each dose and the names of these substances. Such preparations will be subject to analysis by the Department of Public Health of Venezuela, and those failing to correspond to the declared formula will be considered fraudulent. The unauthorized use of containers peculiar to food or other medicinal preparations or mineral waters, as well as of labels which are imitations of those on the corresponding genuine products, or which tend to deceive in respect to place of origin, shall also be held to be fraudulent. Poisonous preparations and products must bear labels on which shall appear, on a black background, the word "Veneno" (poison), in white letters not less than 2 centimeters high, together with the customary sign of the skull and crossbones, also in white.—Gaceta Official, June 3, 1914.

FOOD IN PACKETS—A PHENOMENAL DEVELOPMENT IN RECENT YEARS—FOOD IN THE BULK ALMOST A THING OF THE PAST.

The impression one gets on entering the grocery department of any large store, that it is possible to obtain the great bulk of our food supplies in packets or tins, is to a very large extent a correct one. Within the past twenty years the amount of food of various kinds done up and placed on the market in packets and tins has increased enormously. It may surprise many, however, to know that in the middle of the eighteenth century even cereal foods in packets were already being used to a considerable extent in Great Britain.

The phenomenal expansion of advertisement in recent years has been the means of establishing the proprietary article as an important factor in the people's food supplies, and, of course, a large proportion of food supplied in packets and tins comes within the category of proprietary. Each manufacturer of a specialty means to make the public conversant with the fact and to realize when it gets his product. Consequently he serves it up in packets or tins, which, of course, bear his name. In this way he certainly secures an advantage as compared with his predecessor, who sold his produce in bulk, and of whose name the consumer was seldom aware.

The more scientific preparation of many articles of food tends to further developments in the trade in food in packets and tins. Even were it possible to estimate the value of the produce packed in the United Kingdom we should still be a long way off the total, for great quantities of food in packets and tins are imported; the United States is a leading exporter. Some of our oversea Dominions, moreover, are making rapid strides in the trade.

Just as it is impossible to estimate the value of the trade, so is it impossible in the space available to detail the various articles of food obtainable in packets and tins. Tea, coffee, cocoa, spices, cereals, salt, fruit, fish; these are but a few in a seemingly endless list. The fact remains, however, that the purchaser has become so accustomed to getting various articles in packets or tins that the variety has ceased to interest, or at least to be fully realized.

On the point of cleanliness the consumer can, in general, rely upon foods in packets or tins being quite satisfactory. Their hygienic status is indeed often one of their chief recommendations. And to-day they are more hygienic than ever before on account of the supersession of hand-packing by mechanical means. As an illustration, the case of tea in packets may be quoted. In one continuous operation the tea is blended, automatically weighed, and packed without being handled once. As with tea so with many other commodities. Of course, there are many more which do not lend themselves to packing by machinery, and which have, therefore, to be handpacked. The conditions under which this is now done would, in the greater number of cases, reassure even the most fastidious. Though the bulk of the packing is done at the factories of the numerous manufacturers, there are now fewer stores of any importance in our leading cities where a very considerable amount of packing is not done.

Many of the commodities sold in packets and tins are also obtainable loose—that is, they are kept in bulk until a buyer places an order. Rolled oats are an

example. With regard to certain commodities, and perhaps more especially certain cereals, there are those who contend that a higher quality is retained in bulk than when done up in small packets. On the other hand, when kept for a long time contamination is more to be feared in bulk than in packets. Again, in regard to certain articles which are put up in tins, the quicker this is done the better. Coffee is an outstanding example; the quicker it is put in sealed tins after roasting the greater the likelihood of its retaining its flavor.

Whether it be best to pack a certain article in packets or tins depends upon the article. Some articles will keep as long as necessary in the ordinary packet, while others keep better in tins. The introduction of mechanical appliances has, of course, reduced manufacturers' expenses. Even in regard to food packed by machinery there is naturally considerable expense to be borne. Per packet or tin it may work out at a very small figure. The masses, however, are aware of the fractional difference in the article sold in packets and that in bulk—it may only amount to ½d. per two or three lbs. on cereals—and for that reason they adhere to the old fashion of buying at a store which carries a big supply in bulk.

Still, everything considered, the development of the trade in food in packets and tins has given general satisfaction to the consumer. Indeed the contention is frequently made that but for that development the masses at least would to-day still be without many articles of food which they have come to regard as necessary.—*London Times.*

ELECTRICAL SCIENCE.

ROMANCE OF THE ATOMS—TRANSMUTATION OF THE ELEMENTS.

Speaking at Oxford, Sir J. J. Thomson, Cavendish professor of experimental physics at Cambridge, pointed out that the atomic theory, the theory that matter, in spite of its apparent continuity, is in reality made up of a great number of very small particles, is as old as the science of physics itself; but for two thousand years it made no progress because it had no real connection with physical phenomena. No facts were known by which it could be tested, and it was too vague to suggest for itself effects that could be put to the test for experiment. It was sterile because it was divorced from experience, and it affords a striking proof that a theory can grow only by the coöperation of thought and facts. Facts play such a large part in stimulating imagination and suggesting new ideas that every mechanical improvement in apparatus, every new method that makes it easier to investigate physical phenomena, not merely affects the technique of the science, but may originate ideas that will ultimately revolutionize our philosophy of the universe.

In giving an account of the present state of the atomic theory, the lecturer pointed out that we now know that such things as atoms exist, and that the atoms of an element are all of one kind. We know that all atoms contain electrons—minute particles charged with negative electricity—and that there is only one kind of electron; and this knowledge constitutes the first step towards a knowl-

edge of the structure of the atom and towards the goal towards which since the time of Prout many chemists have been striving—the proof that the atoms of the chemical elements are all built up of simpler or "primordial atoms." The number of electrons in an atom is also known. From measurements of the scattering of Röentgen rays it follows that the number is not very far from half the atomic weight, so that in the carbon atom there would be six electrons, in the oxygen eight, and so on, while in the lightest atom, hydrogen, there is probably only one.

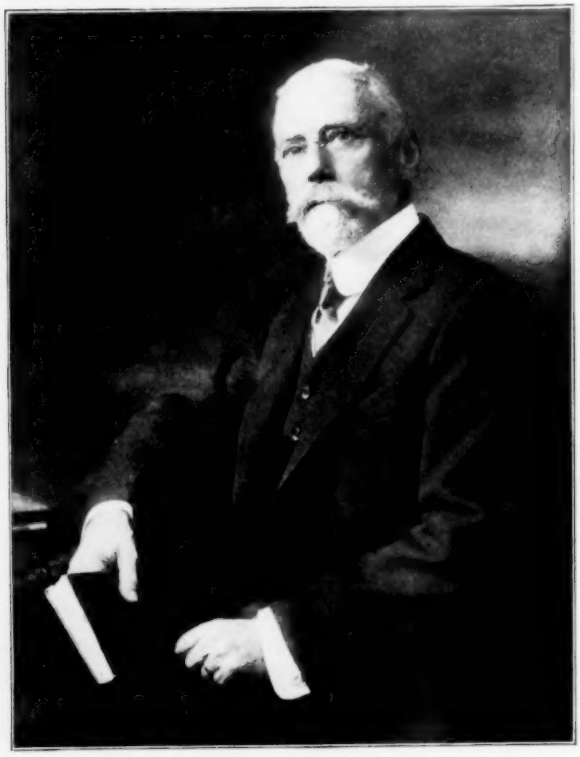
TRANSMUTATION.

The constant difference between the number of electrons in the atom of one element and that in the atom of the element next in the series is strong evidence in favor of the view that the atoms of the consecutive elements differ from each other by the addition of a primordial atom, which is apparently the atom of helium. The atomic weights of the elements show that in their formation a measureable change of mass has taken place, and the changes of energy involved must be enormous compared with those liberated in any chemical changes with which we are acquainted. For instance, the atomic weight of chlorine being 35-5, which is not a whole number, it follows that in the formation of 355 grammes of chlorine there must have been a change of mass of at least half a gramme, and this involves the absorption or liberation of an amount of energy about equal to that required to keep the Mauretania going at full speed a week. The amount of energy required to break up an atom has a very important bearing on the problem of transmuting the elements by physical means, but the lecturer said that his efforts to split up atoms, though he had succeeded in detaching electrons, had not yielded any evidence he could regard as conclusive that by such means the atom of one element could be changed into an atom of a different kind.

WORK FOR FUTURE SCIENTISTS.

As regards the structure of the atom there is strong evidence that the electrons in it are divided into groups and that some of its properties—those associated with its innermost group—are connected in a very simple way with the total number of electrons in the atom; and that there are other properties, notably the chemical ones, which change in a rhythmical way with the atomic weight and which depend on the electrons near the surface of the atom. Lastly, there are regions in the atom, probably the most interesting of all, about which we know little or nothing, the investigation of which will provide work for many generations of physicists, who will assuredly have no reason to be "mournful that no new wonder may betide."

NATIONAL WHOLESALE DRUGGISTS' ASSOCIATION.



CHARLES A. WEST.

The fortieth annual Convention of the National Wholesale Druggists' Association was held at Indianapolis the week of September 22. President George W. Lattimer presided over the Convention.

The address of the President was replete with wise suggestions of the progress made during the past year and of the probable effect upon the trade of its legislation. He thought that the government had shown great capacity in dealing with the perplexing questions presented to them and in satisfying the people without at the same time imposing burdensome restrictions upon the trade.

He referred to the income-tax as one of the fairest and most just methods of financing the government. He urged the members to endeavor to secure uniformity of legislation between the State and National laws. He commended the Stevens bill, condemned a war tax on patent medicines and predicted that the parcel-post would come into more universal use as people became educated to it.

Acting Secretary Thomas F. Main reported a membership of 262 active and 347 associate members.

Treasurer Strong reported a balance of cash on hand of $10,789.86.

The various reports presented were most admirable, showing earnest work on the part of the committee chairmen.

Among those worthy of particular commendation were the reports of the Committee on Legislation, of Adulteration, Proprietary Goods and Credits and Collections, Fire Insurance, and Drug Market. The following gentlemen were elected as officers for the ensuing year:

President, Charles A. West, Massachusetts; Vice Presidents, W. J. Mooney, Indiana; John R. Tague, Tennessee; F. E. Bogart, Michigan; John Phinizy, Georgia; John R. Mason, Texas; Secretary, Thomas F. Main, New York; Treasurer, S. E. Strong, Ohio; Board of Control, Charles Gibson, Charles E. Bidwell, James W. Morrisson, and George R. Merrell. F. E. Holliday was selected as the Association's General Representative.

On Tuesday evening the visiting ladies were entertained by Mr. and Mrs. J. K. Lilly with a *musicale* at their residence on North Meridian Street. Wednesday evening the Convention were the guests of Eli Lilly & Co., and "a most enjoyable occasion" was the verdict rendered by all. The banquet was held on Thursday evening, at the Claypool Hotel, with Mr. J. K. Lilly as toastmaster of the evening. The speakers were President-elect West, President Lattimer, Governor Ralston, Meredith Nicholson and Rev. F. E. Taylor.

Friday, the Convention members were the guests of Hon. Thomas Taggart, at the French Lick Springs Hotel, and a most bountiful hospitality was extended to the Convention. The beautiful hotel and grounds were thrown wide-open to the visitors and their enjoyment of the occasion was enhanced by their inspection of the plant of the famous Pluto Water.

One of the most pleasant features of the Convention was the dinner of the Past Presidents, at the Claypool, on Monday evening, at which Mr. Thomas F. Main, President of the Association in 1894, presided.

Mr. Charles A. West, the newly-elected President, is Vice President of the Eastern Drug Co. of Boston, Mass. The Association is to be congratulated upon its choice for President. "One of Nature's noblemen," courteous in the highest degree, he will bring to the office of President that earnestness of purpose, courage of conviction, that dignity and courtesy which will stimulate the work of the organization and of every officer and member. The Association has cause for thanksgiving in its selection of Charles A. West for its leader for the coming year, and as the successor of a long line of eminent men of the wholesale branch of the profession.

Of General Interest

UNITED STATES CHAMBER OF COMMERCE TO STUDY FOOD AND DRUG QUESTIONS.

The Chamber of Commerce of the United States of America, widely distributed throughout the United States, has taken up the study of the subject of uniform food and drug regulation. For this purpose a special committee was appointed in July, and its first meeting was held at the headquarters of the Chamber in Washington, October 8th. The committee is composed of W. M. McCormick of Baltimore, A. J. Porter of Niagara Falls, John A. Green of Cleveland, B. L. Murray of New York, and Theodore F. Whitmarsh of New York. Mr. Murray is chemist to Merck & Co., and Mr. Whitmarsh is Vice President of Francis H. Leggitt & Co.

The following resolution was adopted:

Resolved, That the Chairman be and he hereby is authorized and empowered to appoint two sub-committees to consider, respectively, the problems relating more particularly to food control and to drug control, and to report their findings to the general committee.

As a result of the above resolution, Mr. McCormick appointed Mr. Murray as Chairman of the Sub-Committee on Drug Conrol, and Mr. Porter as Chairman of the Sub-Committee on Food Control.

The following resolution, commending the efforts of the Department of Agriculture tending towards coöperation and uniformity, was also adopted:

Resolved, That this committee hereby earnestly and heartily endorses the establishment of the bureau in the United States Department of Agriculture, particularly concerned with Federal and State coöperation in the enforcement of the Food and Drug Control Laws, thereby promoting an equal and uniform enforcement of such laws, believing that this work is distinctly in the public interest.

The position taken by the committee on the meaning of uniformity is interesting and will repay close examination. Its views are not confined to a limited horizon, but are intended to grasp the broader and wider fields. Its efforts will be confined to no organization or class of people. It hopes to cover in its endeavors the position of the wholesaler, the retailer, the consumer, the manufacturer, the official, and all others concerned in the production, handling and consumption of food and drugs. But only the broad, general questions of national character will be considered. After a lengthy discussion the committee at its meeting, by unanimous vote of all present, adopted the following regarding uniformity:

Uniformity, as the committee would define it, involves the highest degree of efficiency in food and drug control which it is possible to have prevail universally and equally in every part of the nation. The Federal, State, and municipal laws and their regulations would, if perfect uniformity were attainable, reach the level of full and complete efficiency—and thereby afford equal protection and a uniform standard of living for all the people. Uniformity accomplished, places merit and the general public interest over local political or geographical divisions. This committee will, therefore, direct its efforts and consideration toward the accomplishment of uniformity. The committee cannot but feel impressed with the magnitude, the importance, and the seriousness of its work. It cannot but feel the need for the closest study of the subject. And again the committee cannot but feel the necessity for the fullest and most cordial coöperation between itself and the officials and all others concerned. The committee will, of necessity, act deliberately and slowly, making certain of each step, considering only the important problems of national character.

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COBBLERS, TO YOUR LASTS!!

To the Editor:—With much interest and appreciation the subscriber read and digested the excellent editorial of the October issue, entitled "The Commercialization of Pharmacy." It is my candid opinion that this editorial voiced the opinion of the great mass of the members of the A. Ph. A. and all of that class of pharmacists who believe in Pharmacy as a profession and who revere and honor those who have made it a scientific calling,—one demanding the highest exercise of application, education and skill.

The Chairman of the Commercial Section, in his address at the Detroit Convention, most

certainly exaggerated the commercial side of pharmacy. It is true that, to some extent, commercialism has a place in pharmacy, as well as in other professions. No pharmacist, no physician, no lawyer and, even, no minister, can be successful, if they neglect the commercial part of their profession. Personally, I cannot agree with the statement of the Chairman of the Commercial Section, that it is equally as "ethical" to sell picture postcards as it is to compound and dispense prescriptions. Besides that, it is not as profitable to sell a penny-picture card as it is to dispense a prescription at fifty cents!

The average druggist of to-day is too apt to follow the ways pursued by the large chain stores. He thinks that his salvation, especially, lays in the adoption of their methods! From *legitimate* side lines, a great many of the druggists, throughout the United States, have drifted into the sale of articles entirely *foreign* to pharmacy. Pharmacy, nay, the drug business, has walked, *and even run*, a downward path by the sale of such articles as umbrellas, hair goods, eggs, and last, but not least, by the establishment of lunch-counters. The writer was more than surprised to find such lunch-counters in a prominent pharmacy at Nashville, when attending the Convention.

As an example of how the degeneration of pharmacy, is making rapid progress, let me state that one of the chain stores in New York City, displays, very prominently, this sign on the main floor: "Drugs in the Basement!" Such signs and the sale of goods foreign to our business cannot but degrade pharmacy, and will surely deprive us of the little respect which the public has at the present time for our profession.

After all, scientific education is the cornerstone of the whole foundation of professional pharmacy! A pharmacist who has the proper scientific training, and, consequently, the real knowledge will *never* have to stoop to the adoption of side-lines which are foreign to pharmacy. Owing to his training and his knowledge, he is enabled to make a living and more than a living by practising pharmacy.

The writer does not pretend to be the Moses to whom the Acting Editor refers, but he has preached for years that more professional, and less commercial pharmacy is needed, in order to elevate pharmacy to that position where it properly belongs. Discard your side lines, become an expert in your profession, study the U. S. P. and N. F., make your own preparations, become a prescription specialist, get the reputation of being a skillful pharmacist and last, but not least, gain the confidence of the public as well as of the medical profession!

"Cobbler, stick to your last," is the advice which the Acting Editor gives in the editorial in the October issue of the Journal. Practically the same was voiced by the writer in his address as Chairman of the Section of Practical Pharmacy and Dispensing at the Richmond meeting in 1910 in his advice, "Don't be a jack-of-all-trades, but be a master of a profession, namely 'pharmacy'!"

If pharmacists throughout the country would heed such advice, how much better would that be for pharmacy, and how soon would we have a profession of pharmacy of which the United States could be proud.

OTTO RAUBENHEIMER.

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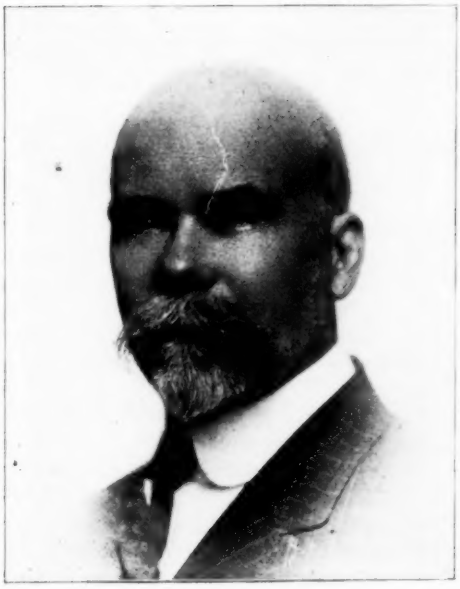
William Henry Lacey, aged 64 years, for many years in business at Nineteenth and Green streets, Philadelphia, died of a complication of diseases on September 30, 1914. The store came under his management in 1873, and his ownership in 1880, and has been one of the land-marks of that section. Mr. Lacey was prominent in several fraternal organizations. He became a member of the American Pharmaceutical Association in 1907. He was unmarried. A brother survives him.

IN AND OUT OF THE INDIAN TOOLHOUSE.

By Clark McAdams.



DR. H. M. WHELPLEY.

I went down into Albion place a few nights ago to see Dr. H. M. Whelpley's collection of Indian relics. It had been some months since I had seen it. I found it growing, as always, and the house stuffed with it until the walls are beginning to bulge. The doctor's father, who was a physician over in Union County, Illinois, where the Indians at Cahokia quarried the flint for their farm implements, laid the foundation of this tremendous collection years ago. He drove about the country in professional quest of ague and measles, and always brought home a relic or so in the back of the buggy. The son began where the father left off, and he has by this time become the foremost private collector in the United States. The only way to keep him from getting anything that strikes his fancy is to nail it down, exactly as Europe did when the late Mr. Morgan went over collecting art and antiques. Collecting is a disease, the germ of which will be discovered in time. It begins mildly, like whooping cough and housemaid's knee, and reduces the patient in its extreme form to a feverish desire to collect something.

Dr. Whelpley brought out his tray of banner stones, and we all began palming them down and caressing them in the way a lover of fine Indian relics will do. I have seen Indian relics take on a fine luster from the affection borne them by connoisseurs. Banner stones are as a rule made of rose quartz. They are very rare and very beautiful. The butterfly type is as highly prized as anything the aborigines of this valley made. A banner stone had no more practical use than to serve as an ornament, or a ceremonial. It was art, which requires no explanation of what it is for.

When we had seen the banner stones—some $2000 worth of them—the doctor brought out his cannel coal relics. Cannel coal is bituminous fuel with something of the hardness and brittleness of anthracite. It takes a very fine polish, and in former times all jet ornaments were made of it. The Indians sometimes made something more than a fire of cannel coal. Such relics are rare, but Dr. Whelpley has them. The rarer all relics are, the more he has of them, as a rule. For instance, there was a man in Mississippi County, Arkansas, in prior times, who made a specialty of effigy pottery. He made bowls shaped like a human head with a hole in the top. Some of these heads were elaborately colored. Of the eighteen known in the country, Dr. Whelpley has two. One of these effigy pots is a very striking thing. It looks like an Indian, and was probably a very faithful portrait of the artist's brother.

We were by this time in a rhapsody of appreciation, and the doctor brought out his big hematite ax. This ax came from Calhoun County, Illinois. It is not only big, but perfect. One loving Indian relics, could fondle it as a woman fondles a baby. It is made of native iron unsmelted, and has a groove in it, indicating that the Indian who made it did so with some thought of how he was to get up his winter's wood. Hematite axes are not uncommon in this vicinity. The Indians made many of them in the iron region of Missouri, and they are fairly abundant in all local collections. They are nevertheless prized, and a good one is as likely to start a general war among collectors of Indian relics as one of the Balkan states is to precipitate an all-around fight in Europe.

Some years ago Dr. W. F. Parks, a local collector, was in California. He asked everybody he met for two or three months if he knew where there were any Indian relics, and learned in that way of two osidian ceremonials up in the mountains of the north end of the State. Osidian is the glass made by the heat of volcanoes. It is found in all volcanic countries more or less. Anyway, Dr. Parks was told that these great osidians, which had served as ceremonials in a California tribe for generations, were in the hands of an old Indian woman, who would sell them. Descending down the line, they were in danger of falling into the hands of her nephew, whom she considered a bad Indian. (He was probably a baseball pitcher.) Dr. Parks bought these blades for Dr. Whelpley. A man went up into the mountains and brought them out, and they are in the collection in Albion place. There is nothing like them in any other collection in the world. They are, moreover, undamaged, despite their long and hazardous journey. Ten thousand Indians have made them lustrous with caresses. They glow like the blarney stone.

And to think that the "Seeing St. Louis" automobile does not even pass the house!

Proceedings of the Local Branches

CHICAGO.

The Chicago Branch of the American Pharmaceutical Association held the first monthly meeting for the season of 1914-15 at the University of Illinois School of Pharmacy Building on the evening of October 20th. In the absence of President James H. Wells, Vice-President W. B. Day presided.

The meeting was addressed by Messrs. Bruun, Morrison, Craig, and Potts.

A. Ph. A. activities were discussed by Professor C. M. Snow. He summarized the interesting features of the many and varied sessions at the Convention in a most attractive way, dwelling especially on the U. S. P. and N. F. work.

A Program Committee was appointed, consisting of Messrs. Craig, Gathercoal, and Becker, with instructions to present a summary of the programs for the meetings of the Branch for the coming season.

E. N. GATHERCOAL, Secretary.

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CINCINNATI.

Resuming the monthly meetings of the Cincinnati Branch of the A. Ph. A., the first meeting of October 16th proved to be an agreeable surprise. It was preceded by an elaborate luncheon, after which our new President, E. H. Thiesing, delivered a very inspiring address, during which he outlined a vigorous campaign tending for the increased interest of the members to individual efforts, and also promising to present lectures from prominent educators in the Pharmaceutical world.

A short business session followed, during which the minutes of the first annual meeting of the Branch, May 12, 1914, as read by the Secretary, were approved.

President Thiesing then introduced the speaker of the evening, Dr. A. O. Zwick, who chose for his subject.

POISONERS—ANCIENT AND MODERN.

The lecturer delved into ancient history, proving by historical facts, writings, such as the Eber-Papyrus, legends and other means, that the Ancient Hindoos, the Egyptians, the Romans and others were well versed, not alone in the knowledge of the poisons by themselves, but also in a surprisingly intimate knowledge of preparing these poisons and using same for sinister and unlawful purposes.

Dr. Zwick has the happy faculty of presenting his lectures interspersed with interesting pictures, holding the attention of his auditors, who feel but one regret; that it is over, all too soon.

Dr. Zwick was given a rising vote of thanks.

The meeting was well attended by the members and their wives, and also by a number of guests, students of the Cincinnati College of Pharmacy and the Eclectic Medical College.

The Cincinnati Branch now has a membership of fifty.

The officers for this year are: President, E. H. Thiesing; First Vice President, F. W. Weissmann; Second Vice-President, I. E. Kutchbauch; Treasurer, Julius Greyer; Secretary, Charles A. Apmeyer; Executive Committee, 3 years, Dr. A. O. Zwick; 2 years, C. T. P. Fennel; 1 year, Charles G. Merrell.

CHARLES A. APMEYER, Secretary.

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NORTHWESTERN.

The first of a series of winter meetings of the Northwestern Branch of the American Pharmaceutical Association was held at the College of Pharmacy of the University of Minnesota on Wednesday evening, September 30th, beginning at 8 o'clock. The following program was presented:

The Sixty-second Annual Convention of the American Pharmaceutical Association, the American Conference of Pharmaceutical Faculties, and the National Association of Boards of Pharmacy, by Dean F. J. Wulling.

The Sixteenth Annual Convention of the National Association of Retail Druggists, by Mr. Charles H. Huhn.

The U. S. P. and N. F. Propaganda Exhibits at the recent A. Ph. A. and N. A. R. D. Convention, by Prof. E. L. Newcomb.

Experiences in Europe, by Mr. Truman Griffen.

Observations in Europe, by Mr. C. A. Robinson.

The Pharmaceutical Tour of Europe, by Prof. Gustav Bachman.

The latter papers were descriptive of the tour of the German Pharmaceutical Society on the Continent in war-time and were very interesting, being illustrated by means of the Balopticon.

Greetings were received from Mr. A. D. Thompson, President of the Branch, who was unable to attend on account of illness. Upon the suggestion of Dean Wulling the Chair appointed a committee, consisting of Messrs. Frost, Horn, and Parker, to draw up and forward to Mr. Thompson, resolutions expressing our regret of his continued illness and wishing him an early recovery.

Prof. Newcomb described the U. S. P. and N. F. Propaganda Exhibits at Philadelphia and Detroit and stated that more permanent good would come from such exhibits if the number of preparations were limited and the number of different samples of each preparation extended. The interest in the exhibit arranged by the Committee on Pharmacopœias and Formularies confirmed this opinion. All of the various factors which might cause a variation in the finished product should be demonstrated or exhibited.

EDWIN L. NEWCOMB, Secretary.

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PHILADELPHIA.

The first of the regular monthly winter meetings of the Philadelphia Branch of the American Pharmaceutical Association was held on Tuesday evening, October 6th, at the Medico-Chirurgical College. President Cook presided. The minutes of the last meeting were read and approved, as was also the report of the Treasurer. Messrs. J. E. Brewer and J. Atley Dean were unanimously elected to membership in the Branch. Professor J. Edward Brewer was unanimously elected to fill the vacancy caused by the resignation of Secretary-Treasurer R. P. Fischelis.

Professor Cook, in reporting for the Committee on A. Ph. A. Headquarters, stated that this committee had not arrived at any definite plans, owing to the resignation of the Chairman, Howard B. French. It was decided to postpone the appointment of a new Chairman until the next meeting.

The program of the evening consisted of reports of the delegates to the various State and National pharmaceutical meetings held during the summer. The meeting of the American Pharmaceutical Association was interestingly reviewed by Prof. J. W. Sturmer. Mr. Charles Rehfuss gave his impressions of the Philadelphia Convention of the National Association of Retail Druggists, and Dr. R. P. Fischelis reported the events which took place at the meeting of the Pennsylvania Pharmaceutical Association, held at Buena Vista.

Professor C. H. LaWall gave the monthly summary of current pharmaceutical literature. [Printed on P. 1593.]

The reports of the delegates were discussed by Messrs. F. M. Apple, S. C. Henry and F. E. Stewart.

The next meeting of the Branch will be held on November 3d, and the chief topic for discussion will be the preparations in the new National Formulary.

ROBERT P. FISCHELIS, Secretary.

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CITY OF WASHINGTON.

The October meeting was held on the 21st instant, at the National College of Pharmacy, George Washington University, before an unusually large gathering for the first fall meeting.

President Richardson read a report on the annual meeting of the Association and detailed the happenings at Detroit, and their bearing upon pharmacy. Mr. M. I. Wilbert and Dr. S. L. Hilton also spoke on the same subject.

Dr. W. W. Stockberger addressed the meeting on the "Prospects of Commercial Drug Growing in the United States," along the same lines as his address on this subject at Detroit, published in the Journal in last issue.

Unquestionably, Dr. Stockberger's talk was a most able address upon a subject of which he has made a most exhaustive and careful study, and upon which no one else is better versed. He was enthusiastically received and the most careful attention was given to every word he uttered.

HENRY B. FLOYD, Secretary.

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ST LOUIS.

The St. Louis Branch held its third Annual Meeting on the evening of October 30, at the College Building. President J. A. Wilkerson presided.

The delegates to the American Pharmaceutical Association meeting, Messrs. G. A.

Burkart and T. C. Hagenow, reported upon their experiences of that meeting.

President Wilkerson, in his retiring address, described the work of the Branch during his administration and made some valuable recommendations as to its future activities.

The following officers were elected: President, Carl T. Buehler; Vice-Presidents, Charles H. Bierman and C. W. Hahn; Secretary, Julius C. Hoester; Treasurer, Theo. C. Hagenow; Advisory Board, Messrs. Wilkerson, Burkart, and Schwerdtmann.

JULIUS C. HOESTER, Secretary.

College and Society

UNIVERSITY OF ILLINOIS SCHOOL OF PHARMACY.

The University of Illinois School of Pharmacy has opened its fifty-fifth session with an enrollment of 200 students, of whom 108 are enrolled in the first year and 92 in the second.

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The St. Louis College of Pharmacy celebrated its semi-centennial on the 10th and 11th of this month, and the occasion was one long to be remembered by all those who assisted in the celebration of its "Golden Anniversary."

On Tuesday occurred a reunion of the classes from 9 a. m. to 4 p. m. and a luncheon was served.

The formal exercises were held at the Auditorium of the Central High School at 8 p. m., Tuesday. Addresses were made by Professors Joseph P. Remington, Charles Caspari, Jr., James H. Beal and Frederick J. Wulling, and by Ex-President C. P. Waldbridge and Joseph L. Boehm.

There was a trolley excursion to Shaw's Garden on Wednesday, and at 7 p. m. the anniversary banquet was enjoyed by all in attendance.

The celebration was in charge of a most efficient committee, of which Mr. Fred W. Sultan was Chairman.

ILLINOIS PHARMACEUTICAL ASSOCIATION.

The Proceedings of the thirty-fifth annual meeting of the Illinois Pharmaceutical Association have recently been distributed to the members. President Baum has appointed a political committee auxiliary to the legislative committee and which comprises two druggists from each county in the State, 102 members in all. Plans are now being made for amending the pharmacy law. A meeting of the Executive Committee of the Illinois Pharmaceutical Association will be held in Chicago in November to consider these plans and to take action on other Association matters, including the deciding on the place of the next annual meeting.

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At the commencement of the Ateneo Rizal of Manila, P. I., and the anniversary celebration of the founding of that University the honorary degree of *Doctor of Pharmacy* was conferred upon Leon M. Guerrero, and the degree of *Master of Pharmacy* was conferred upon Newton C. Comfort, Ph. G., P. D., Pharmacist, U. S. Public Health Service. Both of these pharmacists so distinguished joined the American Pharmaceutical Association in 1904.

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Council Business

A. PH. A. COUNCIL LETTER No. 3.

Philadelphia, October 19, 1914.

To the Members of the Council:—

Motions No. 3 (*Authorization of Committee on Publication to Effect a Reorganization and to Systematize its Work*), and *No.* 4 (*Election of Members; Applications Nos.* 3 *to* 17, *inclusive*), have each received a majority of affirmative votes.

The following communication has been received since the issuance of the previous Council Letter:—

Detroit, September 16, 1914.

Members of the Council, American Pharmaceutical Association:—

Gentlemen:—We, the undersigned members of the American Pharmaceutical Association, hereby petition the Council to permit us the

privilege of forming a local branch of the Association, to be known as the Detroit Branch:—John H. Webster, William A. Hall, J. G. Hackney, Oscar W. Gorenflo, Charles F. Mann, Harry B. Mason, Frank G. Ryan, J. M. Francis, Oliver A. Farwell, C. H. Briggs, C. F. Ramsay, W. L. Scoville, H. C. Hamilton, E. M. Houghton, L. B. Hayward, Frank O. Taylor, E. Kimmich, A. Alton Wheeler, Joseph J. Von Koss, O. Ivanoff, A. E. Moyer, C. Killingsworth, R. A. Hugill, Nicholas Drugoncin, H. M. Averyt, Willard Ohliger, May E. Strawn, Walter H. Blome, R. E. Bell, F. Nagelvoort, A. E. Mallard, F. W. R. Perry, W. P. Doty, Ernest R. Jones, C. Herbert Boldt, William C. Evans, and Leonard A. Seltzer.

Do you favor granting the above petition? It will be known as *Motion No. 5 (Petition to form Detroit Branch, A. Ph. A.)*.

Philip Asher reports that the New Orleans Branch has been discontinued, and there is, therefore, no longer any Council representative from this Branch.

Chairman E. G. Eberle writes that:—

"I am in receipt of a letter from Otto F. Claus and Fred W. Sultan stating that they have examined the books of former Acting General Secretary, Mr. Marshall, and have verified the accounts and vouchers and found same correct."

General Secretary Day writes that:—

"I am in receipt of the Treasurer's bond and continuations from Dr. James H. Beal. I have also received the continuation of bond for the year beginning September 27, 1914, for Treasurer Whelpley from the Fidelity and Deposit Company of Maryland. I have certified to the correctness of the Treasurer's accounts and have started a check to pay the premium on the continuation which must be paid not later than October 27th. I suggest that in the next Council Letter mention should be made of the fact that the Treasurer's bond and the continuations therefore are on file in the office of General Secretary. I will place this bond and the continuations in my box in the deposit vault for safekeeping."

General Secretary Day writes that he has received a reply from Dr. James H. Beal to his letter sending a copy of the resolutions adopted by the Association at its recent meeting relative to Dr. Beal and his services on behalf of the Association. Since the Council adopted these resolutions, as well as the general session of the Association, Dr. Beal's reply to Secretary Day is here given, as follows:—

"I have your favor of September 28th, enclosing copy of resolutions adopted by the A. Ph. A., at its recent meeting. When opportunity offers, please convey to the Association my sincere appreciation of the sentiments expressed by the resolutions and the assurance of my continued interest in all that relates to the prosperity and progress of the American Pharmaceutical Association."

With reference to proposed A. Ph. A. Exhibit at the Panama-Pacific Exposition (Council Letter No. 2) several communications have been received.

Dr. F. E. Stewart writes (October 5th):—

"This is to acknowledge the reception of the letter by Professor Albert Schneider, Chairman of the A. Ph. A. Exhibit Committee, just received. I now desire to move that the American Pharmaceutical Association instruct the Committee to consult with prominent pharmacists and manufacturers engaged in the practice of the pharmacologic arts, with a view of obtaining the necessary funds required for making an exhibit of the kind described in the outline submitted by the Committee, and contained in the letter now before me. My reasons for the motion will be found in the following explanatory statement.

No one will question that the public health is one of the greatest of our national assets, and that it is to the interest of all concerned that certain classes of the community shall be set aside and protected by legal enactment for the purpose of promoting the general welfare in this regard. Hence, we have the medical and pharmaceutical professions, and medical and pharmaceutical laws for their protection from unfair competition by unlicensed practitioners. Hence, we have also medical and pharmaceutical colleges, boards of examiners, and licenses to practice, professional societies and the press, all of which must be supported either directly or indirectly by the public.

Part of the expense of carrying on the work of the medical and pharmaceutical professions is supported by the professions themselves, the members of which devote a large part of their time to original research, contribution of the results of knowledge and experience to science, and the education of those who are entering the professions, and also those who are engaged in their practice, thus promoting progress in the knowledge of disease and the methods for its prevention and cure.

Of late years, there has been a growing tendency to commercialize both medicine and pharmacy until both professions have lost caste and no longer occupy the high position once held in the estimation of the community. Medicine and pharmacy are mutually dependent. Pharmacy, especially, cannot advance except in so far as drug therapeutics is advanced and promoted. It is therefore of vital interest to the pharmaceutical profession that interest shall be created in drugs as therapeutic agents, and in no better way can

this be done than by constantly bringing to the attention of the medical profession and the public the importance of the United States Pharmacopœia, and the standardization of drugs, chemicals and pharmaceutical preparations, to meet the requirements of a rational drug therapeutics.

The attempt to carry on the pharmaceutical vocation as a purely commercial business, in which the demand for drugs is created by misleading methods of advertising, has resulted most disastrously to the interests of the medical and pharmaceutical professions, and the public health. Pharmacy must be practiced as a professional vocation in which financial gain is made subsidiary to the protection of the public health. On the other hand, financial gain is absolutely necessary for the continuance of pharmaceutical practice, and the business should be made sufficiently remunerative to attract the best brains of tht country.

The Panama-Pacific International Exposition offers an opportunity for bringing the American Pharmaceutical Association and the United States Pharmacopœia prominently before the great American public. Owing to the commercialism of pharmacy, the public has lost sight of the true object of pharmaceutical practice. The public is also unacquainted with the amount of knowledge and skill necessary to practice pharmacy in a professional manner. Consequently, it is not generally realized that medicines if prepared in accordance with the standards of the Pharmacopœia should command a price commensurate with the amount of knowledge and skill required. This applies to the medical profession as well as to the public at large. The demands on the part of both are for cheap medicines rather than for standardized medicines.

The production of standardized medicines in turn requires knowledge and skill on the part of those engaged in their preparation and dispensing, whether the vocation is carried on by the retail druggist or the great manufacturing house. This knowledge and skill can only be obtained by the education and training given by our colleges of pharmacy. The amount of money necessary to maintain and foster these educational institutions is more than can be obtained by fees from students. State funds and endowments are necessary for promoting our colleges of pharmacy and such funds cannot be secured unless the public is educated to appreciate this necessity. Therefore, the advantage of bringing before the public exhibitions of the kind now under consideration is apparent.

At the present time, the pharmaceutical profession is threatened with extinction by impractical legislation—legislation largely resulting from suspicion on the part of the public, engendered by dishonest commercialism in pharmaceutical practice. Much of this suspicion can be overcome by persistently bringing before the public in properly displayed exhibitions the scientific and professional side of the pharmaceutical vocation.

Finally, in no better way can the great commercial houses engaged in this practice of the pharmacologic arts promote their commercial interests than by coöperating with the American Pharmaceutical Association in this presentation. What we need is coöperation between the medical and pharmaceutical professions and the manufacturing houses for the promotion of legitimate pharmaceutical practice and the education of the professions and the public in regard to what is meant by legitimate practice, namely, a practice, which will in truth promote the public health, and protect the sick from dishonest commercial exploitation.

I had in mind these objects when I presented my motion resulting in the appointment of the committee for considering an exhibit by the American Pharmaceutical Association at the Panama-Pacific International Exposition, and I believe that the outline placed before us by Professor Albert Schneider, Chairman of the A. Ph. A. Exposition Committee, is eminently suitable for aiding these objects. Standardization is the keynote to pharmaceutical progress from every possible point of view, Standardization means better drugs, better pharmaceutical preparations, better success on the part of the physician and pharmacist, better public health, better prices for medicines, and a better standing for both medicine and pharmacy in the estimation of the American people.

I, therefore, move that the Committee on the Proposed Exhibit at the Panama-Pacific International Exposition be instructed to consult with the leading pharmacists and manufacturers engaged in the medicinal, chemical and pharmaceutical industries of the country, with the view of determining the extent of coöperation and financial assistance that could be expected of them, the Committee to report to the Council later."

Frederick J. Wulling writes (October 5th) that:—

"Concerning the matter of an exhibit at San Francisco, I have already expressed myself to the Chairman of the Committee and to others that, unless the exhibit can be adequately representative of American pharmacy we should not have any, and that to make the exhibit sufficiently representative would require both more time and more money than we could command. It would be far better to refrain from doing anything in the matter than to install an exhibit that would not be sufficiently inclusive in scope. A floor space of 30 x 21 feet would be entirely too small for a proper exhibit and five thousand dollars estimated as the cost of installation and operation is far too low an estimate.

In case the Council decides upon an exhibit, it would be necessary for me to resign from the Committee, as I positively cannot add to my present work."

Under date of October 8th, General Secretary Day expresses the following opinion:—

"With regard to the proposed exhibit at the Panama-Pacific International Exposition, the time is now so short that I do not believe it would be wise of our Association to assume the financial responsibility for making and maintaining such an exhibit. Dr. Schneider estimates the expense at five thousand dollars, which is probably a fairly close estimate. I doubt whether the Association can secure this through personal subscriptions, and if it is not so secured the Association would need to advance this amount from its funds which at the present time it is scarcely in a position to do. Under the circumstances, I believe that the idea of making an exhibit for the Association should be given up."

Albert Schneider submits a second report as Chairman of the A. Ph. A. Exposition Exhibit Committee, stating that:—

"I am submitting a second report as Chairman of the A. Ph. A. Exposition Exhibit Committee. I hope I may be pardoned for submitting a report without consulting with my associates. As stated press of time is my only excuse. If anything is to be done in the way of installing an exhibit it must be done at once. I believe that the recommendations which I am submitting cover the entire situation quite fully and that there is nothing more for me to do until the Council has taken action.

I will endeavor to hold the tentative space reservation in the Liberal Arts Building until the Council may have taken action regarding the proposed exhibit."

The report is as follows:—

Members of the Council, American Pharmaceutical Association:—

Gentlemen:—I note that Prof. E. Fullerton Cook asks to be relieved from serving on the A. Ph. A. Exposition Committee and take it for granted that his request will be granted by the Council. The present committee is, therefore, composed of Dr. F. J. Wulling and myself. Because of the press of time as set forth in my letter of September 26, 1914, I am submitting the following final suggestions on the proposed A. Ph. A. Exposition Exhibit. Although this must be considered in the nature of a minority report I am submitting a copy of this report to Dr. Wulling with the request that he either approve or make such other report as he may deem desirable, and to submit such changes to the Council for action.

I.

STILL EXHIBIT.

1. Complete set of U. S. Pharmacopœias.
2. Foreign Pharmacopœias.
3. Photographs of prominent American Pharmacists.
4. Photographs and Prints illustrating the history of American Pharmacy.
5. Crude and Powdered Vegetable Drugs.
6. Chemicals.
7. Pharmaceuticals.
8. Maps, charts and photographs illustrating the source of American Drugs.
9. Apparatus used in pharmaceutical operations, ancient, colonial and modern.
10. Rare books and prints.
11. Medicaments used by American Indians.
12. Medicaments used by early settlers, etc.

II.

WORKING OR STILL EXHIBIT.

1. Equipment for making chemical tests and assays of U. S. P. drugs and preparations.
2. Equipment for making microscopical analysis of drugs and pharmaceutical preparations.
3. Equipment for bacteriological work, sterilization, etc.
4. Equipment for making physiological assays of drugs and pharmaceutical preparations.

Part II can be made either a working or a still exhibit. The equipment should be complete. As a still exhibit the laboratory equipment should not cost the Association more than $500.00, my idea being that most of the apparatus should be loaned by colleges and manufacturing houses as suggested in my letter of the 26th of September. Personally, I am in favor of making II a working exhibit to be in full operation during the time of the Exposition. My suggestion is that as much of the exhibit under I and II as may be so secured, be loans by colleges of pharmacy and by manufacturing houses and that such technical assistance as may be required for arranging the exhibits be paid for out of a fund to be secured in a manner to be specified. My suggestion is that the A. Ph. A. indicate the maximum sum that the Association may be willing to subscribe and that the balance be obtained through donations secured from friends of the Association. In order to save time I beg to submit the following recommendations:—

1. That the American Pharmaceutical Association arrange an exhibit to be installed in the Liberal Arts Building of the Panama-Pacific International Exposition to be held in San Francisco, 1915.

2. That the exhibit include parts I and II as above outlined. Part I to be a still exhibit and that part II be a working exhibit to be in full operation during the entire time that the Exposition is open, namely, from February 14, 1915, to December, 1915.

3. That the cost of installing and operating

the exhibits be met by the American Pharmaceutical Association and by private subscriptions.

4. In case it is decided that the cost of installation and operation as suggested under (2) is too great, that both I and II be installed as still exhibits.

5. In case it is decided that the cost of installing an exhibit as indicated in (4) is too great, that an exhibit as outlined under I be installed.

6. In case that it is decided to arrange an exhibit as indicated under 2, 3, 4 or 5, your committee should be authorized to secure the necessary assistance for the purpose of collecting the various parts of such exhibit.

As above stated, press of time in which to arrange an exhibit is my only excuse for submitting the above suggestions without consulting with my associates on the committee.

Yours very truly,

Albert Schneider,

Chairman of A. Ph. A. Exposition Exhibit Committee.

San Francisco, October 8, 1914.

Frederick J. Wulling writes (October 12th) as follows relative to above report:—

"I have just received a letter from Professor Schneider enclosing his final report as Chairman of the Committee to look into the question of a Panama Exhibit. He informs me that he has already sent you the report and asks me to make suggestions or any changes in the report that may occur to me. I will make no changes, but will refer you and the Council to my letter to you of October 5th. The thing to do now is to await the action of the Council."

The question of proposed A. Ph. A. Exhibit at the Panama-Pacific Exposition is before the Council and awaits decision.

Motion No. 6 (Election of Members). The following applications for membership have been received:—

No. 18. William George Beucler, 40th St. and Penn Ave., Pittsburgh, Pa., rec. by F. A. Southard and George F. Payne.

No. 19. Blanche I. Rogers, Solon, Iowa, rec. by Ph. A. Schlumberger and Anna B. Schlumberger.

No. 20. A. Herbert Boldt, 376 Jay Street, Detroit, Mich., rec. by Ernest R. Jones and W. L. Scoville.

No. 21. William C. Evans, 189 E. Grand Blvd., Detroit, Mich., rec. by Ernest R. Jones and Clifton H. Briggs.

No. 22. Rasmus Bartleson, Selby and Western Sts., St. Paul, Minn., rec. by W. A. Frost and F. J. Wulling.

No. 23. James A. Scull, Sergeant 1st Class, Hospital Corps, U. S. A., Fort Meyer, Va., rec. by F. W. Meissner and Wm. B. Day.

J. W. ENGLAND,
Secretary of the Council.

415 N. 33d Street.

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COUNCIL LETTER No. 4.

Philadelphia, October 26, 1914.

To the Members of the Council:—

Motions No. 5 (Petition to form Detroit Branch, A. Ph. A.), and *No. 6 (Election of Members; Applications Nos. 18 to 23, inclusive)*, have received a majority of affirmative votes.

The following petition for the creation of the Morgantown, W. Va., Branch of the American Pharmaceutical Association has been received:—

Morgantown, W. Va., October 5, 1914.

Members of the Council, American Pharmaceutical Association:—

Gentlemen:—Earnestly desiring to advance the science and art of Pharmacy and to improve the condition of pharmaceutical practice in West Virginia:—

By stimulating research and the development of improved methods;

By diffusing scientific-technical knowledge;

By fostering sound pharmaceutical education;

By upholding the dignity of pharmacy and demonstrating to the public its importance, and the necessity, as a matter of public safety, of restricting pharmaceutical service to trained pharmacists;

By extending the field of usefulness of the pharmacist to the people;

By promoting the enforcement of due observance of established standards for the identity, purity, and strength of medicines;

By furthering the suppression of empiricism;

By aiding in the regulation of the use of dangerous and habit-forming drugs and in the protection of the public health;

By maintaining respect for ethical standards in the practice of Pharmacy;

By promoting relations of comity and mutual respect between physicians and pharmacists; and in short, in all proper ways to promote the true welfare of pharmacy and pharmacists.

We, the undersigned, realizing the importance and full significance of affiliation with the national organization, do petition the Council of the American Pharmaceutical Association to grant us permission to establish a branch of the Association at Morgantown,

West Virginia, and be it further understood, that each person hereupon attaching his signature, promises to give his hearty support to the branch and to the National Association and to aid in conducting the branch in accordance with the rules and regulations of the American Pharmaceutical Association:—

Morgantown, W. Va.:—W. H. Moore, T. J. Casey, N. J. Hutchins, A. B. Berry, G. H. Dent, W. H. Sturgiss, J. B. Chipley, R. M. Holroyd, E. E. Harris, C. H. Rogers, F. D. Wood, W. H. Schultz, L. C. Sturgiss, W. A. Ream, George W. Melcher, W. L. Hiland, J. C. McVicker.

Fairmount, W. Va.—R. W. Hall, Homer Hall, S. O. Connell, Glenn B. Hamilton, C. W. Windsor, W. R. Crane.

Pine Grove, W. Va.:—D. F. Morgan.

Hastings, Pa.:—J. J. Easby.

Keysor, W. Va.:—J. S. Bosley.

Iaeger, W. Va.:—Clifford W. Ray.

Richwood, W. Va.:—William Gillespie.

Clarksburg, W. Va.:—F. B. Haymaker.

Huntington, W. Va.:—W. C. Price.

Sutton, W. Va.:—Alfred Walker.

Piedmont, W. Va.:—R. E. Kimmel.

Welch, W. Va.:—B. E. Downs.

Terra Alta, W. Va:—S. M. Scott, Jr.

Do you favor granting the above petition? It will be known as *Motion No.* 7 (*Petition to form Morgantown, W. Va., Branch A. Ph. A.*).

Motion No. 8 (*Appropriation of* $1000 *for Journal and* $400 *for Printing, Postage and Stationery*). Moved by W. B. Day, seconded by H. M. Whelpley, that an additional appropriation of $1000 be made for the Journal and an additional appropriation of $400 be made for Printing, Postage and Stationery in order to cover the expenses of these items of the budget for the remainder of the present fiscal year. The appropriation has the approval of the Finance Committee.

The following letter has been received:—

Camden, N. J., October 23, 1914.

Members of the Council, American Pharmaceutical Association:—

On behalf of the Committee on Standards for Unofficial Drugs and Chemical Products, I report that monographs have been adopted covering the following:—

Allium	Pimpinella
Flores Verbasci	Potassii Formas
Hydrangea	Quininæ Valeras
Inula	Sodii Formas
Iris	Strychninæ Valeras
Macis	Thymus
Petroselinum	

These have been sent to the Journal of the A. Ph. A. for publication in accordance with the action of the Council.

Yours very truly,
George M. Beringer, Chairman.

Motion No. 9 (*Election of Members*). The following applications for membership have been received:—

No. 24. J. Edward Kimlel, 1018 Glendale Ave., Peoria, Ill., rec. by Ernest C. Marshall and C. H. Packard.

No. 25. Julian Baker Chipley, 108 High St., Morgantown, W. Va., rec. by J.H. Beal and G. D. Beal.

No. 26. Nicholas John Hutchins, 186 Pleasant St., Morgantown, W. Va., rec. by Charles H. Rogers and J. H. Beal.

No. 27. Alonzo Brun Berry, 186 Pleasant St., Morgantown, W. Va., rec. by Charles H. Rogers and J. H. Beal.

No. 28. W. H. Moore, cor. High and Pleasant St., Morgantown, W. Va., rec. by J. H. Beal and J. W. England.

No. 29. William Arthur Ream, 304 High St., Morgantown, W. Va., rec. by Charles H. Rogers and J. H. Beal.

No. 30. Frank Davidson Wood, 202 Front St., Morgantown, W. Va., rec. by Charles H Rogers and J. H. Beal.

J. W. ENGLAND,
Secretary of the Council.

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COUNCIL LETTER No. 5.

Philadelphia, Pa., November 4, 1914.

To the Members of the Council:

Motions No. 7 (*Petition to form Morgantown, W. Va., Branch, A. Ph. A.*), *No.* 8 (*Appropriation of* $1000 *for Journal and* $400 *for Printing, Postage and tSationery* and *No.* 9 (*Election of Members; Application Nos.* 24 *to* 30 *inclusive*) have each received a majority of affirmative votes.

Albert Schneider writes that:—

"At a recent meeting of the San Francisco Branch of the American Pharmaceutical Association a local committee was appointed and the writer was made temporary Local Secretary. A special meeting of the local committee was held this A. M. at the California College of Pharmacy. The local committee recommends that the time of holding the sixty-third annual meeting of the American Pharmaceutical Association be set for the week of *August* 9 *to* 14, 1915, *inclusive*.

This recommendation is made after a consultation with Prof. James Barr, Director of Conventions and Societies of the Panama-Pacific International Exposition, who states that the time recommended is favorable to the

unhindered use of the Exposition Memorial Auditorium, one of the buildings of the San Francisco Civic Center, located in the heart of the city and within easy reach of all of the main hotels.

The committee further recommends that the program for the 1915 meeting of the A. Ph. A. be so arranged that the business meetings do not interfere with the entertainments."

Professor Schneider moves that the time of holding the sixty-third annual meeting as recommended above be adopted.

Before this motion is voted upon, it should be stated that the following communication, dated October 28th, has been received by the Secretary from M. I. Wilbert:—

"I had expected to call on you during my recent stay in Philadelphia for the purpose of discussing with you the possibility of a more or less concerted agitation to hold the next meeting of the American Pharmaceutical Association immediately before or after the meeting of the American Medical Association which is also to be held in San Francisco. The American Medical Association is to meet *June* 21-25, and if it were possible to hold the meeting of the American Pharmaceutical Association either the week before or the week after this date, I am sure that it would be appreciated by many of our members who usually make an effort to attend both meetings. So far as the Section on Pharmacology and Therapeutics is concerned, there is some doubt at the present time as to whether or not this section will develop a program for next year, but in the event that it does, I am sure that the Section would be greatly benefited by having the meeting of the American Pharmaceutical Association held at about the same time, and conversely, the American Pharmaceutical Association would be benefited by the double attraction, which would be an added incentive for members of both Associations to undertake the trip to the Pacific Coast. At all events, there can be no harm in suggesting the proposition for further consideration."

A copy of Mr. Wilbert's letter was sent to Prof. Schneider (on 29th inst.) but he has not had time to receive and reply to the same, so action on his motion will be deferred, for the present.

The question of proposed exhibit at the Panama-Pacific International Exposition is still pending. Dr. Stewart's motion that the Committee on the Proposed Exhibit at the Panama-Pacific International Exposition be instructed to consult with the leading pharmacists and manufacturers engaged in the medicinal, chemical anl pharmaceutical industries of the country, with the view of determining the extent of coöperation and financial assistance that could be expected of them, has not been acted upon by the Council.

In ,the meanwhile, the following letter under date of October 24, 1914, has been received from Fred. I. Lackenbach, of San Francisco, a copy of which has been sent to Local Secretary protem Schneider:—

"In the matter of the proposed exhibit of pharmaceutical products and processes at the Palace of Liberal Arts, Panama-Pacific International Exposition, I would respectfully advise that April last some forty letters were sent out to all the large pharmaceutical and chemical houses in the United States and abroad with a view of interesting them in the matter of exhibits in the Palace of Liberal Arts. The enclosed correspondence shows the result of this effort.

The main reason for the lack of interest is the fact that only a small proportion of the visitors to the Exposition would be interested in such exhibits. They would be of interest only to the professions of pharmacy and medicine. The cost of maintenance over so long a period would be out of all proportion to the benefits to be derived.

As you no doubt know, the American Medical Association is to meet in San Francisco next year and it is planned to make the 1915 Scientific and commercial exhibit the most elaborate in the Association's history.

It would seem to me much more to the point for the A. Ph. A. to interest itself in the scientific exhibit of the A. M. A. Commercial houses would readily coöperate in such a plan and very likely the materials prepared for exhibition purposes could be used also during the convention of the American Pharmaceutical Association."

No letters from manufacturing houses were enclosed with Mr. Lackenbach's letter, the only reference thereto being in a letter to James A. Barr, Director of Congresses, by Mr. Lackenbach, saying that "the returns on the letters sent out on the matter of exhibits are not at all reassuring, the only favorable response being from the Cutter Laboratory at Berkeley, Cal., which stated that they had reservations on file."

The following letter (October 21st, 1914) to Mr. Lackenbach from Will C. Braun, Advertising Manager of the American Medical Association, is given:—

"Your esteemed favor of October 18, 1914, is at hand. Dr. Jones will be in Chicago the latter part of this week and I will talk the matter over with him regarding exhibits. Then when I come to San Francisco to make definite arrangements, I will get in touch with you. In fact, I am counting on your coöperation in making the San Francisco

Commercial Exhibit of the A. M. A. one of the greatest successes we have ever had in that line."

If the exhibit of the A. M. A. at San Francisco should be held, not only during the week of the A. M. A. Convention, but also during the week of the A. Ph. A. Convention, it would seem to be the logical thing for the A. Ph. A.—if it is decided to have an exhibit—to endeavor to coöperate with the A. M. A., and minimize the expense of the exhibit. This suggestion has been made to Professor Schneider, but he has not had time to reply to it.

Motion No. 10 (*Election of Members*). You are requested to vote on the following applications for membership:—

No. 31. William Henry Schultz, 128 Willey St., Morgantown, W. Va., rec. by Charles H. Rogers and J. H. Beal.

No. 32. Robert McFerrin Holroyd, 92 Beverly Ave., Morgantown, W. Va., rec. by Charles H. Rogers and J. H. Beal.

No. 33. Gaylord Hess Dent, 130 Fayette St., Morgantown, W. Va., rec. by Charles H. Rogers and J. H. Beal.

No. 34. George Melcher, Willey St., Morgantown, W. Va., rec. by Charles H. Rogers and J. H. Beal.

No. 35. Clifford W. Ray, Iaeger, W. Va., rec. by Charles H. Rogers and J. H. Beal.

No. 36. Gabriel J. Fajardo, 128 Water St., New York, N. Y., rec. by Jose P. Alacan and Jose Guillermo Diaz.

J. W. ENGLAND,
Secretary of the Council.

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WAR DEPARTMENT.

OFFICE OF THE SURGEON GENERAL,
WASHINGTON.

List of changes of station covering period ending September 30, 1914, in the cases of Sergeants First Class, and Sergeants, Hospital Corps:

PHARMACISTS.

SERGEANTS FIRST CLASS.

Herman Weber, Evacuation Hospital No. 1, to Fort Monroe, Va.

Frederick Thomas, Walter Reed General Hospital, to Vera Cruz, Mexico.

Fred S. Owen, Fort Niagara, N. Y., to Walter Reed General Hospital.

Francis E. Thuney, Walter Reed General Hospital, to sail for P. I., December 5, 1914.

Charles F. Kimball, on furlough from Alaska, to Fort Greble, R. I.

Elmo D. Mathews, Fort Greble, R. I., to Recruit Depot, Fort Logan, Colo.

George W. Hicks, Philippine Department to U. S. for two months' furlough.

Fred C. Baum, San Juan, P. R., to Fort Adams, R. I.

Paul L. Whitmarsh, Fort Adams, R. I., to San Juan, P. R.

Jens Christensen, Rct. Depot, Columbus Barracks, O., to sail for P. I., December 5, 1914.

Samuel J. Koon, Presidio of San Francisco, Cal., to Ft. Canby, Wash.

Nelson Hoberg, Fort Canby, Wash., to Presidio of San Francisco, Cal.

Elmer J. Armstrong, Rct. Dept, Fort Logan, under orders to sail for P. I.

SERGEANTS.

Barnet Glicksburg, Philippine Islands, to Fort Adams, R. I.

Virgil F. Secrest, Philippine Islands, to U. S. for furlough.

Clarence Dodds, Panama, to Fort McKinley, Me.

Ernest F. O'Banion, Walter Reed General Hospital, to Fort Niagara, N. Y.

James D. Rogers, under instruction X-ray work at Army Medical School, to Recruit Depot, Columbus Barracks, Ohio.

James R. Wood, U. S. Military Prison, Ft. Leavenworth, Kan., to Hawaiian Dept.

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STATEMENT OF OWNERSHIP, MANAGEMENT, ETC.,

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Acting Editor.—E. C. Marshall, Columbus, Ohio.

Acting Managing Editor.—E. C. Marshall, Columbus, Ohio.

Acting Business Manager.—E. C. Marshall, Columbus, Ohio.

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Is a corporation not for profit, incorporated under U. S. Laws at Washington, D. C., and does not have a capital stock.

Known bondholders, mortgages, and other security holders, holding 1 percent. or more of total amount of bonds, mortgages, or other securities, none.

(Signed) E. C. Marshall, Acting Editor.

Changes of Address

All changes of address of members should be sent to the General Secretary promptly.

The Association will not be responsible for non-delivery of the Annual Volume or Year Book, or of the JOURNAL unless notice of change of address is received before shipment or mailing.

Both the old and the new address should be given, thus:

HENRY MILTON,
From 2342 Albion Place, St. Louis, Mo.
To 278 Dartmouth St., Boston, Mass.

Titles or degrees to be used in publications or in the official records should be given, and names should be *plainly* written, or typewritten.

<>

BEAL, J. H.,
From Scio, Ohio,
To 801 W. Nevada St., Urbana, Ill.

CREIGHTON, MARY L.,
From Scio, Ohio,
To 611 Indiana Ave., Urbana, Ill.

HARP, LEWIS D.,
From Sergt. 1st Cl. H. C., U. S. A. Hospital, Columbus Barracks, Columbus, O.,
To Sergt. 1st Cl. H. C., U. S. A. Department Hospital, Honolulu, H. T.

MINEHART, J. R.,
From 4805 Greene St., Germantown, Philadelphia, Pa.,
To 4821 Germantown Ave., Philadelphia, Pa.

COULSON, J. T.,
From 110 N. Beaton St., Corsicana, Texas,
to care Adolphus Pharmacy, Dallas, Texas.

FANCHER, WM. Q.,
From Ft. Frank, Corregidor, P. I.,
To care U. S. A. T. Liscum, Manila, P. I.

GROAT, H. S.,
From Pullman, Wash.,
To Renton, Wash.

RASMUSSEN, NELS,
From Ambulance Co. No. 4, Ft. Wm. McKinley, P. I.,
Care Department Surgeon's office, San Francisco, Cal.

REIN, MISS TANIA,
From 211 Grant St., Portland, Ore.,
To 1321 First St., Seattle, Wash.

BISCHOFF, H. E.,
From 118 Fourth St., Union, N. J.,
To 118 Fourth St., Union Hill, N. J.

FREDERICK T. GORDON, Ph. C.,
From 2115 Medary Ave., Philadelphia, Pa.,
To 3336 N. Broad St., Philadelphia, Pa.

C. B. JORDAN, Ph. C.,
From 212 Wiggins, La Fayette, Ind.,
To 409 Russell St., La Fayette, Ind.

MR. J. MAISEL,
From 866 Kelly St., N. Y.,
To 2278 7th Ave., New York City, N. Y.

MR. WM. H. GANO,
From 1634 Columbia Ave., Philadelphia, Pa.,
To 207 N. 35th St., Philadelphia, Pa.

MR. I. A. FORSTER,
From Johnston Ave.,
To 3129 Lyndale Ave., Chicago, Ill.

MR. BOLIVAR JURADO,
From David, Chirequi, Republic De Panama,
To National Institute, Panama City, Republic of Panama.

MR. H. P. THORN,
From Main St., Medford, N. Y.
To Unknown.

RESIGNED SINCE SEPT. 18, 1914.

GUILFORD, H. B., Rochester, N. Y.
HARVEY, R. B., Ann Arbor, Mich.
FRANKAU, GUST, Manila, P. I.
MORRIS KANTOR, Care Kantor & Kantor, Cor. 184th St., and Audubon Ave., N. Y.

DROPPED SINCE SEPT. 18, 1914.

DRUEL, L. A. (MRS.), Chicago, Ill.
OGLESBY, GEO. D., Chicago, Ill.

DECEASED SINCE SEPT. 18, 1914.

SAUNDERS, WILLIAM, Ontario, Can.